

US Army Corps
of Engineers
Baltimore District

ATTACHMENT TO ACCOMPANY AMENDMENT NO. 0001 TO RFP
W912DR-05-R-0052

CONSTRUCTION SPECIFICATIONS

BARRACKS COMPLEX, PHASE 1, HAZARDOUS MATERIALS ABATEMENT, BUILDINGS 402, 403 & 412

FORT MYER, VIRGINIA

REQUEST FOR PROPOSAL **W912DR-05-R-0052**

CONTRACT NO.

DATE **MAY 18, 2005**

PROJECT TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

01010 SPECIAL CLAUSES

01011 DESCRIPTION OF WORK

DIVISION 13 - SPECIAL CONSTRUCTION

13280A ASBESTOS HAZARD CONTROL ACTIVITIES

13284N REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs)

13286N HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBs AND
MERCURY

-- End of Project Table of Contents --

SECTION 01010

SPECIAL CLAUSES

PART 1 GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS

1.1.1 PROGRESS SCHEDULING AND REPORTING: (FEB 1985)

The Contractor, shall within five days or as otherwise determined by the Contracting Officer, after date of commencement of work, submit for approval a practicable progress schedule showing the manner in which he intends to prosecute the work. NADB Form 1153 ("Physical Construction Progress Chart") will be furnished upon request for use in preparing this schedule. If a Contractor form is used, the same information as shown in the NADB Form 1153 shall be provided. (CENAB-CO-E)

1.1.2 PAYMENTS TO CONTRACTORS: (NOV 1976)

For payment purposes only, an allowance will be made by the Contracting Officer of 100 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated into the construction, pursuant to the Contract Clause entitled "PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS". The Contracting Officer may also, at his discretion, take into consideration the cost of materials or equipment stored at locations other than the jobsite, when making progress payments under the contract. In order to be eligible for payment, the Contractor must provide satisfactory title evidence that he has acquired title to such material or equipment, and that it will be utilized on the work covered by this contract. Further, all items must be properly stored and protected. Earnings will be computed using 100% of invoiced value. (CENAB-CO-E)

1.1.3 PURCHASE ORDER: (SEP 1975 REV JUN 1991)

One readable copy of all purchase orders for material showing firm names and addresses, and all shipping bills, or memoranda of shipment received regarding such material, shall be furnished to the appointed Contracting Officer's Representative as soon as issued. Such orders, shipping bills or memoranda shall be so worded or marked that all material can be definitely identified. At the option of the Contractor, the copy of the purchase order may or may not indicate the purchase price. (CENAB-CO-E)

1.1.4 SECURITY REQUIREMENTS

All contractor/subcontractor personnel must follow all rules governing Fort Myer. All contractor personnel must register with the installation security office (202-685-2811) and obtain an installation identification pass. The identification pass shall be presented when entering the installation and shall be carried at all times while on the installation property. All contractor personnel must demonstrate United States citizenship or appropriate paperwork to work legally in the United States. See Fort Myer website for additional information is <http://www.fmmc.army.mil>.

1.1.5 PHOTOGRAPHS (SEP 85 REV JUN 1991)

The Contractor shall furnish ten each digital color photographs of the project to the Contracting Officer. These photographs shall be taken at systematic intervals during the contract where and when directed by the Contracting Officer. (CENAB-CO)

1.1.6 PERMITS

As stated in Clause "Permits and Responsibilities, the Contractor is responsible for researching and obtaining all applicable Federal, state and local permits under this contract. No work shall begin until permits have been obtained to the satisfaction of the Contracting Officer.

1.2 JOB CONDITIONS

1.2.1 LAYOUT OF WORK: (APR 1972)

The Contractor shall lay out his work and shall be responsible for all measurements in connection therewith. The Contractor shall furnish, at his own expense, all templates, platforms, equipment, tools and materials and labor as may be required in laying out any part of the work. The Contractor will be held responsible for the execution of the work to such lines and elevations shown on the drawings or indicated by the Contracting Officer. (CENAB)

1.2.2 TRANSPORTATION FACILITIES:

Fort Myer is ringed by two primary roads; Arlington Boulevard (U.S. Route 50) on the northern and northwestern sides and Washington Boulevard (State Route 27) on the southwestern side. Public transportation is available to and from the post. See <http://www.fmmc.army.mil/AccessOverview.htm> for installation access.

1.2.3 UTILITIES

1.2.3.1 Availability of Utilities Including Lavatory Facilities: (JUN 1980)

It shall be the responsibility of the Contractor to provide all utilities he may require during the entire life of the contract. He shall make his own investigation and determinations as to the availability and adequacy of utilities for his use for construction purposes and domestic consumption. He shall install and maintain all necessary supply lines, connections, piping, and meters if required, but only at such locations and in such manner as approved by the Contracting Officer. Before final acceptance of work under this contract, all temporary supply lines, connections and piping installed by the Contractor shall be removed by him in a manner satisfactory to the Contracting Officer. (CENAB)

1.2.3.2 Interruption of Utilities: (1972)

a. No utility services shall be interrupted by the Contractor to make connections, to relocate, or for any purpose without approval of the Contracting Officer.

b. Request for permission to shut down utility services shall be submitted in writing to the Contracting Officer not less than 17 days prior to proposed date of interruption. The request shall give the following information:

- c. Nature of Utility (Gas, L.P. or H.P., Water, Etc.)
- d. Size of line and location of shutoff.
- e. Buildings and services affected.
- f. Hours and date of shutoff.
- g. Estimated length of time service will be interrupted.
- h. Services will not be shut off until receipt of approval of the proposed hours and date from the Contracting Officer.
- i. Shutoffs which will cause interruption of Government work operations as determined by the Contracting Officer shall be accomplished during regular non-work hours, on non-work days of the Using Agency, or as directed by the Contracting Officer, without any additional cost to the Government.
- j. Operation of valves on water mains will be by Government personnel. Where shutoff of water lines interrupts service to fire hydrants or fire sprinkler systems, the Contractor shall arrange his operations and have sufficient material and personnel available to complete the work without undue delay or to restore service without delay in event of emergency.
- k. Flow in gas mains which have been shut off shall not be restored until the Government inspector has determined that all items serviced by the gas line have been shut off. (CENAB)

1.2.4 DISPOSAL OF EXISTING MATERIAL AND EQUIPMENT (DEC 1975)

Except for asbestos-containing material, lead based paint, and PCB's, all removed, dismantled or demolished material and/or equipment including rubble, scrap and debris not specified or indicated to be Government salvaged, reinstalled under this contract or otherwise retained for disposal on Government land will become the property of the Contractor and shall be promptly removed from the site and disposed of by the Contractor at his own expense and responsibility. Hazardous materials disposal is specified in the technical sections. (CENAB)

1.2.5 COMPLIANCE WITH POST/BASE REGULATIONS: (JUL 1980)

The site of the work is on a military reservation and all rules and regulations issued by the Commanding Officer covering general safety, security, sanitary requirements, pollution control, traffic regulations and parking, shall be observed by the Contractor. Information regarding these requirements may be obtained by contacting the Contracting Officer, who will provide such information or assist in obtaining same from appropriate authorities. (MEMO)

1.2.6 HOT-WORK PERMIT

A hot-work permit, DA Form 5383-R (copy attached to the end of this section), must be submitted to the post DPW before using heat-producing equipment.

1.2.7 MAINTENANCE OF ACCESS: (DEC 1975)

Unless otherwise directed by the Contracting Officer, the Contractor shall not block passage through sidewalks, roads or other entranceways to adjacent buildings during performance of work under this contract. (CENAB)

1.2.8 PROTECTION OF GOVERNMENT PROPERTY AND PERSONNEL: (DEC 1975)

1.2.8.1 Protection of Equipment

All existing Government owned equipment within the work area shall be protected by the Contractor from damage caused by construction operations. As a minimum, the Contractor shall cover all appropriate equipment in the work area with dust barriers and protect such items from any damage due to dust, vibration, water, heat or other conditions resulting from construction activities. Existing work damaged by construction operations shall be promptly repaired by the Contractor at his own expense.

1.2.8.2 Protection of Personnel

The Contractor shall protect personnel by installing safety rails and/or barricades as applicable to prevent injury from unauthorized entry into work areas. Warning signs shall be erected as necessary to indicate Construction areas or hazardous zones. Work shall proceed in such manner as to prevent the undue spread of dust and flying particles.

1.2.8.3 Measures to Prevent Damage/Injury

The Contractor shall take such additional measures as may be directed by the Contracting Officer to prevent damage or injury to Government property or personnel. (CENAB)

1.2.9 WORKING HOURS

It shall be the Contractors responsibility to obtain the working hours other than the normal five (5) day work week 08:00 am to 4:30 pm. (CENAB-CO-SQ)

1.2.10 ASBESTOS (JAN 1985 REV NOV 1993)

1.2.10.1 Warning

THE CONTRACTOR IS WARNED THAT EXPOSURE TO AIRBORNE ASBESTOS HAS BEEN ASSOCIATED WITH FOUR DISEASES: LUNG CANCER, CERTAIN GASTROINTESTINAL CANCERS, PLEURAL OR PERITONEAL MESOTHELIOMA AND ASBESTOSIS. Studies indicate there are significantly increased health dangers to persons exposed to asbestos who smoke and further, to family members and other persons who become indirectly exposed as a result of the exposed worker bringing asbestos-laden work clothing home to be laundered.

1.2.10.2 Friable and/or Nonfriable Asbestos

The Contractor is advised that friable and/or nonfriable asbestos containing material has been identified in area(s) where contract work is to be performed. Friable asbestos containing material means any material that contains more than 1 percent asbestos by weight that hand pressure can crumble, pulverize or reduce to powder when dry. Nonfriable asbestos containing materials do not release airborne asbestos fiber during routine handling and end-use. However, excessive fiber concentrations may be

produced during uncontrolled abrading, sanding, drilling, cutting, machining, removal, demolition or other similar activities. Whether asbestos is friable or nonfriable, care must be taken to avoid releasing or causing to be released, asbestos fibers into the atmosphere where they may be inhaled or ingested.

1.2.10.3 Potential Locations

When contract work activities are carried out in locations where the potential exists for exposure to airborne asbestos fibers as described in paragraph "Friable and/or Nonfriable Asbestos" above or where asbestos waste will be generated, the contractor shall assure that all measures necessary to provide effective protection to persons from exposure to asbestos fibers and prevention of contamination to property, materials, supplies, equipment and the internal and external environment are effectively instituted. The Contractor shall conduct asbestos-related activities in accordance with SECTION: 13280A ASBESTOS HAZARD CONTROL ACTIVITIES.

1.2.10.4 Industrial Hygiene Asbestos Survey

An industrial hygiene asbestos survey was conducted in the contract work area(s) to identify the presence of asbestos containing materials as described in paragraph "Friable and/or Nonfriable Asbestos" above. The data collected is contained in the Asbestos and Lead-Based Paint Report attached to the end of this section.

1.15.6 Additional Asbestos Survey

The industrial hygiene asbestos survey described in the above paragraph may not have identified all asbestos containing materials in the contract work area(s). When contract work area(s) appear to have asbestos containing material not identified in the Asbestos and Lead-Based Paint Report, the Contractor shall conduct an asbestos survey to identify such materials in a manner similar to that described in the Asbestos and Lead-Based Paint Report. (CENAB)

The points of contact follow:

1. OSHA: (410)962-2840
2. EPA, Region 3: 1-800-438-2474
3. Virginia Council on the Environment: (804) 786-4508

1.2.11 LEAD-BASED PAINT AND PCB'S

The Contractor is advised that lead-based paint and polychlorinated biphenyls (PCB's) have been identified in areas where contract work is to be performed.

1.2.11.1 Potential Locations

When contract work activities are carried out in locations where the potential exists for exposure to lead-based paint, the contractor shall assure that all measures necessary to provide effective protection to persons from exposure to lead-based paint and prevention of contamination to property, materials, supplies, equipment and the internal and external environment are effectively instituted.

1.2.11.2 Lead-Based Paint Survey

A lead-based paint survey was conducted in the contract work area(s) to identify the presence of lead-containing paint. The data collected is contained in the Asbestos and Lead-Based Paint Report attached to the end of this section. Representative materials from Buildings 402, 403, and 412 were collected from the painted and non painted building components expected to be in the waste stream. These representative materials were homogenized into one sample per building and submitted to Severn Trent Laboratory for Toxicity Characteristic Leaching Procedure-Lead (TCLP-Lead) analysis. Results for each sample was reported as being below the Regulatory level 5.0 mg/L for Lead leachate. The Analytical Report from Severn Trent Laboratory is attached at the end of this section.

1.2.11.3 PCB Survey

A PCB survey was conducted at the sites. The data collected is contained in the Asbestos and Lead-Based Paint Report attached to the end of this section.

1.2.12 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

1.2.12.1 Procedure for Determination

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance the contract clause entitled "Default: (Fixed Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- a. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
- b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

1.2.12.2 Anticipated Adverse Weather Delays

The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON (5) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
4	5	6	7	6	6	6	5	2	5	4	3

1.2.12.3 Impact

pon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on

critical activities for 50 percent or more of the contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph "Anticipated Adverse Weather Delays", above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)".

1.3 SAFETY

1.3.1 APPLICABLE PUBLICATIONS:

The publications listed below form a part of this specification and are referred to in the text by the basic designation only. All interim changes (changes made between publications of new editions) to the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, will be posted on the Headquarters Website. The date that it is posted shall become the official effective date of the change and contracts awarded after this date shall require to comply accordingly. The website location where these changes can be found is under the button entitled "Changes to EM", located at: "http://www.hq.usace.army.mil/soh/hqusace_soh.htm".

1.3.1.1 U.S. ARMY CORPS OF ENGINEERS:

EM 385-1-1 (03 Nov 03) Safety - Safety and Health Requirements

1.3.2 GENERAL:

Worker safety is of paramount importance. The Contractor shall comply with the Contract Clause in the Solicitation entitled ACCIDENT PREVENTION, including the U.S. Army Corps of Engineers Safety and Health Requirements Manual referred to therein in addition to the provisions of this specification. See also safety requirements elsewhere in the contract.

1.3.3 SAFETY PROGRAM:

The U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, and all subsequent revisions referred to in the Contract Clause ACCIDENT PREVENTION of this contract, are hereby supplemented as follows:

- a. The Contractor shall designate an employee responsible for overall supervision of accident prevention activities. Such duties shall include: (1) assuring applicable safety requirements are (a) communicated to the workers in a language they understand (reference EM 385-1-1, 3 Sep 1996, 01.A.04). It is the Contractor's responsibility to ascertain if there are workers on the job who do not speak and/or understand the English language. If such workers are employed by the prime contractor or subcontractors, at any tier, it is the prime contractor's responsibility to insure that all safety programs, signs, and tool box meetings are communicated to the workers in a language they understand, and that a bilingual employee is on site at all time. If the contractor contends that interpreters and/or bilingual signs are not required, a language certificate must be provided

which verifies that all workers (whose native tongue is other than English) have a command of the English language sufficient to understand all direction, training and safety requirements, whether written or oral, and (b) incorporated in work methods, and (2) inspecting the work to ensure that safety measures and instructions are actually applied. The proposed safety supervisor name and qualifications shall be submitted in writing for approval to the Contracting Officer's Representative. This individual must have prior experience as a safety engineer or be able to demonstrate his/her familiarity and understanding of the safety requirements over a prescribed trial period. The safety engineer shall have the authority to act on behalf of the Contractor's general management to take whatever action is necessary to assure compliance with safety requirements. The safety supervisor is required to be on the site when work is being performed.

- b. Prior to commencement of any work at a job site, a preconstruction safety meeting shall be held between the Contractor and the Corps of Engineers Area/Resident Engineer to discuss the Contractor's safety program and in particular to review the following submittals:

- (1) Contracts Accident Prevention Plan: An acceptable accident prevention plan, written by the prime Contractor for the specific work and implementing in detail the pertinent requirements of EM 385-1-1, shall be submitted for Government approval.

- (2) Activity Phase Hazard Analysis Plan: Prior to beginning each major phase of work, an activity hazard analysis (phase plan) shall be prepared by the Contractor for that phase of work and submitted to the Contracting Officer's Representative for approval. A phase is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform work. The analysis shall address the hazards for each activity performed in the phase and shall present the procedures and safeguards necessary to eliminate the hazards or reduce the risk to an acceptable level.

- c. Subsequent jobsite safety meetings shall be held as follows:

- (1) A safety meeting shall be held at least once a month for all supervisors on the project to review past activities, to plan ahead for new or changed operations and to establish safe working procedures to anticipated hazards. An outline report of each monthly meeting shall be submitted to the Contracting Officer's Representative.

- (2) At least one safety meeting shall be conducted weekly, or whenever new crews begin work, by the appropriate field supervisors or foremen for all workers. An outline report of the meeting giving date, time, attendance, subjects discussed and who conducted it shall be maintained and copies furnished the designated authority on request.

1.3.4 ACCIDENTS:

Chargeable accidents are to be investigated by both Contractor personnel

and the Contracting Officer.

1.3.4.1 Accident Reporting, Eng Form 3394:

Section 1, Paragraph 01.D, of EM 385-1-1 and the Contract Clause entitled ACCIDENT PREVENTION are amended as follows: The prime Contractor shall report on Eng Form 3394, supplied by the Contracting Officer, all injuries to his employees or subcontractors that result in lost time and all damage to property and/or equipment in excess of \$2,000 per incident. Verbal notification of such accident shall be made to the Contracting Officer within 24 hours. A written report on the above noted form shall be submitted to the Contracting Officer within 72 hours following such accidents. The written report shall include the following:

- a. A description of the circumstances leading up to the accident, the cause of the accident, and corrective measures taken to prevent recurrence.
- b. A description of the injury and name and location of the medical facility giving examination and treatment.
- c. A statement as to whether or not the employee was permitted to return to work after examination and treatment by the doctor, and if not, an estimate or statement of the number of days lost from work. If there have been days lost from work, state whether or not the employee has been re-examined and declared fit to resume work as of the date of the report.

1.3.4.2 OSHA Requirements:

- a. OSHA Log: A copy of the Contractor's OSHA Log of Injuries shall be forwarded monthly to the Contracting Officer.
- b. OSHA Inspections: Contractors shall immediately notify the Contracting Officer when an OSHA Compliance official (Federal or State representative) presents his/her credentials and informs the Contractor that the workplace will be inspected for OSHA compliance. Contractors shall also notify the Contracting Officer upon determination that an exit interview will take place upon completion of the OSHA inspection. (NABSA OCT 05, 1976)

1.4 CONTRACTOR QUALITY CONTROL

1.4.1 GENERAL

The Contractor shall provide and maintain an effective quality control program that complies with the Contract Clause entitled "Inspection of Construction." The Contractors Quality Control Program through inspection and reporting shall demonstrate and document the extent of compliance of all work with the standards and quality established by the contract document. The burden of proof of contract compliance is placed on the Contractor and not assumed by the Government. The Contractor's Quality Control will not be accepted without question. The Contractor's Quality Control program shall include daily inspections and provide for a daily report of QQC activity.

1.4.2 CONTROL

Contractor Quality Control is the means by which the Contractor ensures

that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

1.4.2.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of applicable contract drawings, if any.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 24 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

1.4.2.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

1.4.2.3 Follow-Up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

1.4.2.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

1.4.3 CONTRACTOR QUALITY CONTROL PLAN

1.4.3.1 General

Not later than 14 days after receipt of Notice To Proceed the Contractor shall submit to the Contracting Officer for approval a Contractor Quality Control (CQC) Plan showing proposed implementation of the requirements of the Contract Clause titled "Inspection of Construction." The plan shall

identify personnel, procedures, control, instructions, test, records, and forms to be used. Construction will be permitted to begin only after acceptance of the CQC Plan.

1.4.3.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a construction person with a minimum of 5 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

1.4.4 Documentation

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and

deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

1.4.5 WORK DEFICIENCIES

The Contractor shall not build upon or conceal non-conforming work. If deficiencies indicate that the Contractor's Quality Control is not adequate or does not produce the desired results, corrective actions shall be taken by the Contractor. If the Contractor does not promptly make the necessary corrections, the Contracting Officer may issue an order stopping all or any part of the work until satisfactory corrective action has been taken. Payment for deficient work will be withheld until work has been satisfactorily corrected or other action is taken pursuant to the Contract Clause entitled, "Inspection of Construction." If recurring deficiencies in an item or items indicated that the quality control is not adequate, such corrective actions shall be taken as directed by the Contracting Officer.

1.4.6 FORMS

Sample forms attached to the end of this section.

1.5 SUBMITTALS

1.5.1 REQUIRED SUBMITTALS

Government approval is required for submittals with a "G" designation; All other submittals are for information only. The following shall be submitted in accordance with this Part:

SD-01 Preconstruction Submittals

Progress Schedule; G AR.

A schedule that shows the manner in which the Contractor intends to prosecute the work.

Title Evidence

Proof of purchase for equipment and/or materials.

Photographs

Photographic record of construction progress.

Shut Down Utility Services; G AR.

Prior approval for service/utility interruptions.

Hot-Work Permit

Permit form for heat-producing equipment usage.

Site Plan; G AR.

Plan describing location and layout of Contractors temporary facilities, including narrative and drawings.

Safety Supervisor

A safety supervisor shall be responsible for overall supervision of accident prevention activities.

Activity Phase Hazard Analysis Plan; G AR.

The addressing of the activity phase hazard analysis plan for each activity performed in a phase of work.

OSHA Log

A log shall be reported monthly for injuries.

Submittal Register; G AR.

A document defining minimum submittals to be furnished to the Contracting Officer.

Diskette; G AR.

Software containing submittal data in electronic format.

Contractor Quality Control (CQC) Plan; G AR.

Identifies personnel, procedures, control, instructions, test, records, and forms to be used.

Outline Report; G AR.

A report for each past activities review.

Language Certificate; G AR.

It is the Contractors responsibility be sure that all employees understand the basic English language.

Erosion and Sedimentation Control Plan; G AR.

Plan, including narrative and drawings, showing proposed erosion and sedimentation control measures.

SD-02 Shop Drawings

Site Plan; G AR.

Site plan showing the Contractor's fenced areas as specified in this section.

1.5.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.5.2.1 Government Approval

Government Approved: Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specification and Drawings for Construction," they are considered to be "shop drawings."

1.5.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referenced above.

1.5.3 APPROVED SUBMITTALS

The approval of submittals by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailed and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract, is responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be given consideration unless accompanied by an explanation as to why a substitution is necessary.

1.5.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies as specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, notice as required under Contract Clause entitled "Changes" shall be given promptly to the Contracting Officer.

1.5.5 GENERAL

The Contractor shall submit all items listed on the Submittal Register (ENG Form 4288) or specified in the other sections of these specifications. The Contracting Officer may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections. Submittals shall be made in the respective number of copies and submitted to the Contracting Officer. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor and each respective transmittal form (ENG Form 4025) shall be stamped, signed and dated by the Contractor certifying that the accompanying submittal complies with the contract requirements. Proposed deviations from the contract requirements shall be clearly identified. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby.

1.5.6 SUBMITTAL REGISTER (ENG Form 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor will also be given the submittal register on a diskette containing the computerized ENG form 4288 and instructions on the use of the diskette. Columns "c" through "f" (abbreviations in column "p" are defined as follows: "AR" means Area Office; and "ED" means Engineering Division) have been completed by the Government. The Contractor shall complete columns "a", "b", and "g" through "r" and return 2 completed copies (hard copy plus associated electronic file) to the Contractor Officer for approval within 30 calendar days after Notice to Proceed. The Contractor shall keep this diskette up to date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. This register and the progress schedules shall be coordinated.

1.5.7 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed on the register for review and approval. No delays, damages or time extensions will be allowed for time lost in late submittals.

1.5.8 TRANSMITTAL FORM (ENG Form 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care will be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

1.5.9 SUBMITTAL PROCEDURES

Six (6) copies of submittals shall be made as follows:

1.5.9.1 Procedures

In the signature block provided on ENG Form 4025 the Contractor certifies that each item has been reviewed in detail and is correct and is in strict conformance with the contract drawings and specifications unless noted otherwise. The accuracy and completeness of submittals is the responsibility of the Contractor. Any costs due to resubmittal of documents caused by inaccuracy, lack of coordination, and/or checking shall be the responsibility of the Contractor. This shall include the handling and review time on the part of the Government. Each variation from the contract specifications and drawings shall be noted on the form; and, attached to the form, the Contractor shall set forth, in writing, the reason for and description of such variations. If these requirements are not met, the submittal may be returned for corrective action.

1.5.9.2 Additional Requirements

The above is in addition to the requirements set forth in Contract Clause entitled "Specifications and Drawings for Construction". (ER 415-1-10)

1.5.9.3 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variations" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.5.10 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being stamped and dated. Four (4) copies of the submittal will be retained by the Contracting Officer and two (2) copies of the submittal will be returned to the Contractor.

1.5.11 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will be returned. Approval of the Contracting Officer is not required on information only submittals. These submittals will be used for information purposes. The government reserves the right to require the Contractor to resubmit any item found not to comply with the contract.

1.5.12 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data
and/or attached sheet(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

1.6 ENVIRONMENTAL PROTECTION

1.6.1 APPLICABLE REGULATIONS

The Contractor and his subcontractors in the performance of this contract, shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement in effect on the date of this solicitation, as well as the specific requirements stated elsewhere in the contract specifications.

1.6.2 NOTIFICATION

The Contracting Officer will notify the Contractor of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of time lost due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

1.6.3 PROTECTION OF WATER RESOURCES

The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acid construction wastes or other harmful materials. It is the responsibility of the Contractor to investigate and comply with all applicable Federal, State, County and Municipal laws concerning pollution of rivers and streams. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in streams through or adjacent to the project areas.

1.6.4 Erosion and Sedimentation Control Plan

The Contractor shall submit for approval to the Contracting Officer an erosion and sedimentation control plan consisting of narrative and drawings. No site work may begin until the plan is reviewed and approved.

1.6.5 BURINING

Burning will not be permitted

1.7 TEMPORARY CONSTRUCTION ITEMS

1.7.1 GENERAL

The work covered by this section consists of furnishing all labor, materials, equipment, and services and performing all work required for or incidental to the items herein specified. No separate payment will be made for the construction and services required by this section, and all costs in connection therewith shall be included in the overall cost of the work unless specifically stated otherwise.

1.7.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS

EM 385-1-1	(03 Nov 03) Safety - Safety and Health Requirements
EP 310-1-6A and EP 310-1-6B	Sign Standards Manual, VOL 1 CH 1 and VOL 2 CH 1

1.7.3 SAFETY SIGN (JUN 1994)

A safety sign shall be provided and erected at a location designated by the Contracting Officer. The sign shall conform to the applicable requirements of EP 310-1-6A and EP 310-1-6B, or as directed by the Contracting Officer. The sign shall be erected as soon as possible and within 15 days after the date of receipt of notice to proceed. (CENAB)

1.7.4 SITE PLAN

Contractor staging areas shall be as directed by the Contracting Officer. The Contractor shall prepare a site plan showing fencing, the number of and location of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified.

1.7.5 EMPLOYEE PARKING

Contractor employees shall park privately owned vehicles in the designated area and other areas designated by the Contracting Officer. Areas will be at or within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with post operations.

1.7.6 CONTRACTOR'S TEMPORARY FACILITIES

1.7.6.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities at a location designated by the Contracting Officer. Government facilities will not be available to the Contractor's personnel.

1.7.6.2 Storage and Staging Areas

Storage and staging areas shall be as directed by the Contracting Officer. The Contractor shall construct an approved temporary high chain link fence around trailers and materials. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the construction site but within the military boundaries. Trailers, equipment, or materials shall not be open to public view with the exception of those items which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. Unless otherwise approved by the Contracting Officer, mobile equipment shall be parked within the fenced area at the end of each work day.

1.7.6.3 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed.

1.7.6.4 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or

other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

1.7.6.5 Security Provisions

Adequate approved outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment, including personnel, which will also be subject to the post security requirements in Part 1 of this section.

1.7.6.6 Restoration of Storage Areas

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

PART 2 PRODUCT -- NOT APPLICABLE

PART 3 EXECUTION -- NOT APPLICABLE

-- End of Section --

RISK ASSESSMENT FOR
EXCAVATION AND OTHER WORK IN THE VICINITY OF UTILITIES

PROJECT NAME: _____
CONTRACT NUMBER: _____
PROJECT INSTALLATION AND LOCATION: _____
PROPOSED EXCAVATION START DATE: _____

1. ☐ ESTABLISH EXCAVATION DETAILS AND DRAWINGS (check when completed)
2. ☐ PROPOSED EXCAVATION AREA MARKED ("white lining") (check when completed)
3. ☐ CONTACT APPROPRIATE ONE-CALL SERVICE FOR PUBLIC UTILITIES:
MD: Miss Utility 1-800-257-7777 N Y : New York City - Long Island One Call Center 1-800-272-4480
N. VA: Miss Utility 1-800-552-7777 PA: Pennsylvania One-Call System Incorporated 1-800-242-1776
VA: Miss Utility of VA 1-800-552-7001 DC: Miss Utility 1-800-257-7777
ONE-CALL NATIONAL REFERRAL CENTER: 1-888-258-0808

☐ CONTACT INSTALLATION/OWNERS OF ALL PRIVATELY OWNED UTILITIES (NON ONE-CALL MEMBERS)
4. ☐ DATE UTILITIES MARKED AND METHOD OF MARKING
ONE-CALL LOCATORS _____
OTHER LOCATORS _____
5. ☐ CONTACT APPROPRIATE DPW REPRESENTATIVES AND COMPLY WITH INSTALLATION PERMIT REQUIREMENTS: _____
6. ☐ UTILITIES IDENTIFIED ON-SITE:
☐ NONE ☐ ELECTRIC ☐ GAS ☐ WATER ☐ TELEPHONE ☐ CATV ☐ SEWER ☐ OTHER _____
7. ☐ LEVEL OF RISK: (Based upon personnel safety and consequences of utility outages.)
☐ SEVERE: Excavation required within the immediate vicinity (<2-ft) of a MARKED utility.
☐ MODERATE: Excav. required outside the immediate vicinity (> 2-ft) of MARKED utility.
☐ MINIMAL: Excavation required in an area with NO utilities.
8. ☐ EXISTING FACILITIES/UTILITIES IN VICINITY:
☐ NON-CRITICAL ☐ MISSION CRITICAL ☐ HIGH-PROFILE ☐ CEREMONIAL
☐ OTHER _____
☐ CONSEQUENCES IF EXISTING UTILITIES ARE DAMAGED/DISRUPTED _____
9. ☐ ENGINEERING CONTROLS REQUIRED:
☐ NONE ☐ HAND EXCAVATE TO LOCATE UTILITY ☐ EXCAVATE WITH DUE CARE
☐ OTHER _____
10. ☐ ADMINISTRATIVE CONTROLS REQUIRED:
☐ Notification of Contracting Officer's Representative, NOTIFIED on: _____
☐ Notification of Installation/DPW Representative, NOTIFIED on: _____
11. ☐ EMERGENCY NOTIFICATION AT INSTALLATION: POC & PHONE NUMBER _____

THE INFORMATION NOTED ABOVE IS ACCURATE AND THE WORK IS READY TO PROCEED
SIGNED and DATE _____ CQC MANAGER

12. ☐ ON-SITE GOVERNMENT REP. RECOMMENDATION FOR APPROVAL TO EXCAVATE:
☐ YES ☐ NO SIGNATURE AND DATE: _____
Comments: _____
13. ☐ AREA ENGINEER APPROVAL TO EXCAVATE:
☐ APPROVED ☐ DENIED SIGNATURE AND DATE: _____
Comments: _____
14. ☐ CHIEF, _____ DIVISION APPROVAL TO EXCAVATE:
☐ APPROVED ☐ DENIED SIGNATURE AND DATE: _____
Comments: _____

HOT-WORK PERMIT

For use of this form, see AR 420-90; the proponent agency is ACSIM

1. LOCATION	2. DATE	3. PERMIT NO.
4. TYPE OF WORK	5. START TIME	6. FINISH TIME
7.a. NAME OF PERSON RESPONSIBLE FOR HOT-WORK AT JOB SITE <i>(Contractor/Government Employee)</i>	7.b. SIGNATURE	

PRECAUTIONS BEFORE OPERATIONS

CHECKLIST	CHECK ONE	
	YES	NO
8. Did Fire Department Inspector inspect site?		
9. Are there procedures for Fire Department emergency notification? <i>(Emergency No.)</i>		
10. Are combustibles in area noted?		
11. Should combustibles be covered? <i>(If yes, note in remarks)</i>		
12. Are proper extinguishers on hand?		
13. Is wet-down necessary? <i>(If yes, note in remarks)</i>		
14. Is smoking permissible at work sites?		
15. Is continuous fire watch required?		
16. Is Fire Department standby required?		
17. Are other precautions required? <i>(If yes, note in remarks)</i>		
18.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	18.b. DATE	

PRECAUTIONS AFTER OPERATIONS

CHECKLIST	CHECK ONE	
	YES	NO
19.a. Was Fire Department notified after hot-work operation was completed?		
19.b. Time:		
20.a. Did Fire Department inspector inspect work site?		
20.b. Time:		
21. Are after work conditions safe? <i>(If no, note in remarks)</i>		
22. Are heat producing devices safe if left at work site?		
23.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	23.b. DATE	
24. REMARKS		

NOTE: PERMIT VALID ON DAY OF OPERATION AT ONE LOCATION ONLY

SUMMARIZATION OF AIRBORNE ASBESTOS SAMPLING RESULTS				
CORPS DISTRICT		WORK LOCATION(Installation, Building, Room, City, State)		CONTRACT NO.
AMOUNT OF ASBESTOS _____ SQ. FT. _____ LINEAR FT. WORK AREA DIMENSIONS _____ L x _____ W x _____ H				
ASBESTOS INVOLVED	<input type="checkbox"/> FRIABLE <input type="checkbox"/> NON-FRIABLE			
TYPE OF MATERIAL	<input type="checkbox"/> CEILING TILE <input type="checkbox"/> FLOOR TILE <input type="checkbox"/> SPRAY-ON <input type="checkbox"/> ROOFING <input type="checkbox"/> WALL PANELS <input type="checkbox"/> CLOTH			
	<input type="checkbox"/> PIPE LAGGING <input type="checkbox"/> PLASTER MUD <input type="checkbox"/> PAPER SHEET <input type="checkbox"/> GASKET <input type="checkbox"/> ROPE <input type="checkbox"/> OTHER			
TYPE OF ACTION	<input type="checkbox"/> REMOVAL <input type="checkbox"/> ENCLOSURE <input type="checkbox"/> ENCAPSULATION <input type="checkbox"/> OTHER			
WET METHODS	<input type="checkbox"/> ON WORK <input type="checkbox"/> ON WASTE <input type="checkbox"/> AMENDED WATER <input type="checkbox"/> NOT USED			
WASTE HANDLING	<input type="checkbox"/> SHIFT END <input type="checkbox"/> 2x/SHIFT <input type="checkbox"/> CONTINUOUS <input type="checkbox"/> ACCEPTABLE			
BARRIER FILMS	<input type="checkbox"/> FLOOR <input type="checkbox"/> WALL <input type="checkbox"/> CEILING <input type="checkbox"/> DOUBLE <input type="checkbox"/> AIR VENTS <input type="checkbox"/> OTHER <input type="checkbox"/> NONE			
WORK ZONE PRESSURE DIFFERENTIAL	<input type="checkbox"/> NEGATIVE <input type="checkbox"/> POSITIVE <input type="checkbox"/> AMBIENT <input type="checkbox"/> NONE			
CAUTION SIGNS	<input type="checkbox"/> PERIMETER <input type="checkbox"/> DUMPSTER <input type="checkbox"/> WASTE BAGS			
SITE ISOLATION	<input type="checkbox"/> PERIMETER <input type="checkbox"/> AIRLOCK <input type="checkbox"/> DUCTS <input type="checkbox"/> OTHER			
WORK PRACTICES	<input type="checkbox"/> HEPA VACUUM <input type="checkbox"/> MICROTRAP <input type="checkbox"/> CHANGE ROOM <input type="checkbox"/> SHOWERS			
RESPIRATORS	<input type="checkbox"/> SUPPLY AIR <input type="checkbox"/> PAPR AIR PURIFYING (Neg. Press.) <input type="checkbox"/> SINGLE USE <input type="checkbox"/> REUSABLE <input type="checkbox"/> NONE			
PROTECTIVE CLOTHING	<input type="checkbox"/> DISPOSABLE <input type="checkbox"/> REUSABLE <input type="checkbox"/> SHOE COVERS <input type="checkbox"/> GLOVES			

CEILING VALUES		TWA-VALUES				
FIBERS/CC	OPERATION	FIBERS/CC	SAMPLE HRS.	A/P*	B/D/P/O**	OPERATION

** B/D/P/O (B-Baseline; D-Daily; P-Post-Clean; O-Other)

ABIH CERTIFICATION NO.	
------------------------	--



Comprehensive
Inspection
and
Consulting
Services

Brownfield
Redevelopment

Asbestos /
Lead-Based Paint

IAQ / Mold

Risk Assessment

Phase I ESA

Design-Build

Monitoring

Regulatory
Compliance and
Negotiation

USEPA/ASTA

Site
Characterization
and Remediation

Hazardous
Waste Sites
(CERCLA / RCRA)

Building
Assessments

Offices

Baltimore, MD

York, PA

Asbestos and Lead-Based Paint Survey Report

OF:

Buildings 402, 403, 412 and Steam Manholes
Fort Myer Army Base

PREPARED FOR:

USACE, Baltimore District
10 South Howard Street
Baltimore, MD 21203

April 28, 2004

Inspection Summary

Inspection Site: Building 402, 403, 412, and Steam Manholes
Fort Myer Army Base

Inspection Dates: February 9, 2004
March 25, 2004
March 26, 2004

Inspectors: R. Shannon Cavaliere
James W. Lovell

Report Prepared By:


James W. Lovell, Industrial Hygienist

Report Reviewed By:


William Montley, Quality Control

Summary of Positive Results

Asbestos

The following table is a list of asbestos containing material (ACM) identified in Building 402:

ACM	Location	Type (% Asbestos)	Estimated Quantity
9x9 white and tan Floor Tile	Basement, 1 st , 2 nd , 3 rd , and 4 th floors.	4% - 6% chrysotile	3100 SF
Mastic	Basement, 1 st , 2 nd , 3 rd , and 4 th floors	2% - 12% chrysotile	72,500 SF
Thermal System Pipe Insulation	1 st , 2 nd , 3 rd , and 4 th floor hallways.	4% chrysotile 2% amosite	80 SF
Thermal System Pipe Insulation	Basement hallways	4% chrysotile 2% amosite	100 LF
Thermal System Pipe Insulation	Boiler Room in the Basement	TSI is labeled as ACM 4% chrysotile 2% amosite	600 LF
Boiler Insulation	Boiler Room in the Basement	Labeled as ACM	400 SF
Tank Insulation	Boiler Room in the Basement	Labeled as ACM	1,000 SF

SF = Square Feet

LF = Linear Feet

The following table is a list of asbestos containing material (ACM) identified in Building 403:

ACM	Location	Type (% Asbestos)	Estimated Quantity
9x9 white and tan Floor Tile	Basement, 1 st , 2 nd , 3 rd , and 4 th floors.	5% chrysotile	5,000 SF
12 x 12 black and white floor tile	Elevator	< 1% chrysotile	40 SF
Mastic	Basement, 1 st , 2 nd , 3 rd , and 4 th floors	2% - 8% chrysotile	168,500 SF
Thermal System Pipe Insulation	Room 121 and room opposite it	12% chrysotile	70 LF
Thermal System Pipe Insulation	Boiler Room in the Penthouse	TSI is labeled as ACM	950 LF

ACM	Location	Type (% Asbestos)	Estimated Quantity
Thermal System Pipe Insulation	Mechanical Room in the Basement	TSI is labeled as ACM	500 LF
Tank Insulation	Boiler Room in the Penthouse	TSI is labeled as ACM	500 SF

SF = Square Feet

LF = Linear Feet

The following table is a list of asbestos containing material (ACM) identified in the five steam manholes:

ACM	Location	Type (% Asbestos)	Estimated Quantity
Thermal System Pipe Insulation	Steam manholes potentially disturbed by renovation activity	TSI is assumed as ACM	50 LF

SF = Square Feet

LF = Linear Feet

Inspection Summary

The following components were determined to contain lead based paint:

Area/Location	Lead-Based Paint Components
Building 402 Stairways	vertical red pipe in the rear south stairway
Building 403	pipe in the basement lobby
Building 403	tread and stringer in Stairway 1C
Building 412	exterior window casings; soffit (assume positive – not accessible)

The following table is a list of smoke detectors, PCB containing ballasts, and florescent light bulbs for buildings 402, 403, and 412.

Building	PCB Containing Ballasts	Florescent Light Fixtures	Smoke Detectors
402	300	600	210
403	700	1400	374
412	10	50	1

Overview

Arc Environmental was retained by The U.S. Army Corp of Engineers, Baltimore District, to perform an inspection of the buildings 402, 403, 412, and associated steam manholes located at Fort Myer, Virginia. The objective of the inspection was to identify asbestos containing material (ACM) and lead-based paint, prior to the planned demolition of the structure.

The inspection was performed on and February 9, March 25, March 26, 2004 by an EPA licensed asbestos inspector and a certified lead-based paint risk assessor performed the inspection on in accordance with current and applicable Federal, State, and local regulations. All sampling and analysis of suspect ACM and lead-based paint was performed in accordance with current and applicable Federal, State, and local regulations.

Methods

Asbestos

Asbestos sampling, assessment, and analysis was performed in accordance with the following procedures:

- A visual inspection of the interior of the building was conducted to determine the number of ACM types.
- Based on EPA recommendations for this type of survey, a sampling plan was developed for each suspect ACM, including non-friable miscellaneous ACM.
- During the survey, locations of each sample were noted on the "Asbestos Bulk Sampling and Analysis Sheet". In addition, quantities of materials sampled were noted.
- Bulk sampling of suspected ACM was performed in accordance with current EPA recommendations.
- Samples were analyzed using Polarized Light Microscopy by an independent laboratory accredited by the American Industrial Hygiene Association.

Lead-Based Paint

A Scitec MAP4 x-ray fluorescence (XRF) spectrum analyzer (serial #1279) was utilized to perform the lead-based paint survey. This equipment has a Performance Characteristics (PC) sheet developed by HUD and EPA, which defines the parameters for its use in the field.

A calibration check test was conducted before, during, and after the inspection to insure that the instrument was operating correctly throughout the inspection process. The calibration data is

provided at the bottom of the first XRF "Lead-Based Paint Testing Data Sheet" contained in the attachment section of this report.

First Calibration Check (completed before the inspection day begins)

Three readings are taken on a wood block covered with the red NIST SRM #2579 (1.02 mg/cm²). The average of the three readings must fall between 0.7 and 1.3.

Middle and/or Final Calibration Check (completed within 4 hours of *First Calibration Check* or at the end of the inspection day; whichever occurs first)

Repeat the process explained in part 1.

Each XRF reading taken with the equipment is recorded on the data sheets and classified as positive, negative, or inconclusive based on the following ranges according to the PC sheet for a Scitec MAP4 analyzer using the "unlimited" mode:

Negative
≤ 0.90 mg/cm²

Positive
≥ 1.20 mg/cm²

Inconclusive
0.90 to 1.20 mg/cm²

Results

Asbestos

A list of all suspect ACM identified, sampled and analyzed at the Site can be found on the "Asbestos Bulk Sampling and Analysis Sheets" provided as an attachment to this report. Locations of all ACM can be found in the attached Drawings.

The following suspect asbestos containing building materials were identified, sampled, analyzed and determined to contain asbestos:

- Floor tile, mastic, and TSI located throughout building 402 and 403 and the five steam manholes. No ACM was identified in building 412. Floor tile and TSI should be removed by a licensed asbestos abatement contractor prior to demolition of the building.

The following suspect asbestos containing building materials were identified, sampled, analyzed and determined **not** to contain asbestos:

- Gypsum Board and Joint Compound
- Ceiling Plaster
- Roofing Materials
- 12x12 Floor Tile

- Ceiling Tile
- Fireproofing Compound

Lead Based Paint

A minimal amount of positive components were found Buildings 402, 403, and 412, as identified on the Inspection Summary page at the beginning of the report. There were a total of 717 readings taken, of which 8 were positive. All remaining readings taken at the property were negative (no confirmatory paint chip samples were necessary to determine classification of lead-based paint). There were areas throughout the buildings that were inaccessible (such as individual dorm rooms, mechanical rooms, offices), and therefore not tested. A complete listing of test locations, paint condition, and classification of readings is presented in the data sheets attached to this report.

Contractors impacting lead-based painted surfaces during demolition and/or renovation activities should comply with appropriate worker safety measures described in OSHA's Lead in Construction Standard (29 CFR 1926.62). Because demolition/renovation activities may involve aggressive paint and building component removal techniques, certain work practices should be reviewed and considered, including work area containment, worker respiratory protection, personal air monitoring, post renovation cleaning, and clearance testing. In addition, building materials should be tested prior to demolition, using the toxicity characteristic leaching procedure (TCLP) to determine whether they must be treated as hazardous materials for compliance with the Environmental Protection Agency's (EPA's) Resource Conservation and Recovery Act (RCRA).

If you have questions, comments, or concerns about the material presented in this report, please do not hesitate to contact Arc Environmental at (410) 659-9971.

Attachments

- Asbestos Laboratory Report
- Asbestos Bulk Sampling and Analysis Sheets
- Laboratory Chain of Custody
- Lead Based Paint Testing Data Sheets

SCHNEIDER LABORATORIES

INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

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AIHA/ELLAP 100527, NVLAP 101150-0, NYELAP/NELAC 11413, CAELAP 2078, NC 593

LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method 600/R-93/116

ACCOUNT: 2791-04-1710
CLIENT: Arc Environmental, Inc.
ADDRESS: 1311 Haubert St
Baltimore, MD 21230-5219

DATE COLLECTED: 3/25/2004
DATE RECEIVED: 3/30/2004
DATE ANALYZED: 4/1/2004
DATE REPORTED: 4/1/2004

PO NO.:
PROJECT NAME: Ft. Myer
PROJECT NO.:
JOB LOCATION: 402, 403, 412

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
1	27148096 Layer 1: 100% Non-Asbestos	Elevator Floor Tile	No	Gray, Organically Bound NON FIBROUS MATERIAL 100%
2	27148097 Layer 1: 100% Non-Asbestos	Elevator Mastic	No	Black, Bituminous CELLULOSE FIBER 3%, NON FIBROUS MATERIAL 97%
3	27148098 Layer 1: 100% Non-Asbestos	Roof Asphalt Roofing	No	Black, Bituminous NON FIBROUS MATERIAL 85%, SYNTHETIC FIBER 15%
4	27148099 Layer 1: 100% Non-Asbestos	Roof Asphalt Roofing	No	Gray/Black, Bituminous NON FIBROUS MATERIAL 88%, SYNTHETIC FIBER 12%
5	27148100 Layer 1: 100% Non-Asbestos	Roof Roofing Tar	No	Black, Bituminous NON FIBROUS MATERIAL 75%, SYNTHETIC FIBER 25%
6	27148101 Layer 1: 4% Asbestos 96% Non-Asbestos	4th Floor Floor Tile	Yes	White, Organically Bound CHRYSTILE 4% NON FIBROUS MATERIAL 96%

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
	Layer 2:	Mastic	Yes	Black, Bituminous
	12% Asbestos		CHRYSTILE 12%	
	88% Non-Asbestos		NON FIBROUS MATERIAL 88%	
7	27148102	4th Floor		
	Layer 1:	Floor Tile	No	Gray, Organically Bound
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
	Layer 2:	Mastic	No	Black, Bituminous
	100% Non-Asbestos		NON FIBROUS MATERIAL 95%, POLYETHYLENE 5%	
8	27148103	4th Floor		
	Layer 1:	Floor Tile	Yes	Tan, Organically Bound
	6% Asbestos		CHRYSTILE 6%	
	94% Non-Asbestos		NON FIBROUS MATERIAL 94%	
	Layer 2:	Mastic	Yes	Black, Bituminous
	10% Asbestos		CHRYSTILE 10%	
	90% Non-Asbestos		NON FIBROUS MATERIAL 90%	
9	27148104	4th Floor		
	Layer 1:	Ceiling Tile	No	White, Fibrous
	100% Non-Asbestos		CELLULOSE FIBER 30%, FOAMED GLASS 20%, MINERAL/GLASS WOOL 40%, NON FIBROUS MATERIAL 10%	
10	27148105	2nd Floor Hall		
	Layer 1:	Elbow Mud	Yes	Gray, Powdery
	6% Asbestos		AMOSITE 2%, CHRYSTILE 4%	
	94% Non-Asbestos		MINERAL/GLASS WOOL 10%, NON FIBROUS MATERIAL 84%	
11	27148106	3rd Floor		
	Layer 1:	Ceiling Tile	No	White, Fibrous
	100% Non-Asbestos		CELLULOSE FIBER 40%, FOAMED GLASS 20%, MINERAL/GLASS WOOL 30%, NON FIBROUS MATERIAL 10%	
12	27148107	213		
	Layer 1:	Ceiling Finish	No	Gray, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
13	27148108	Drop Ceiling Cmpd		
	Layer 1:	Ceiling Compound	No	Beige, Granular
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	
14	27148109	1st Floor		
	Layer 1:	Pipe Insulation	No	Brown, Spongy
	100% Non-Asbestos		NON FIBROUS MATERIAL 100%	

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
	Layer 2:	Cover	No	White, Rubbery, Fibrous
	100% Non-Asbestos			CELLULOSE FIBER 40%, METAL FOIL 10%, MINERAL/GLASS WOOL 5%, NON FIBROUS MATERIAL 45%
15	27148110	Lobby		
	Layer 1:	Floor Tile	No	White/Black, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
16	27148111	Basement		
	Layer 1:	Floor Tile	No	Red, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
	Layer 2:	Mastic	No	Brown, Soft
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
17	27148112	Basement		
	Layer 1:	Floor Tile	Yes	Tan, Organically Bound
	5% Asbestos			CHRYSTILE 5%
	95% Non-Asbestos			NON FIBROUS MATERIAL 95%
	Layer 2:	Mastic	Yes	Black, Bituminous
	12% Asbestos			CHRYSTILE 12%
	88% Non-Asbestos			NON FIBROUS MATERIAL 88%
18	27148113	Basement		
	Layer 1:	Floor Tile	Yes	Brown, Organically Bound
	4% Asbestos			CHRYSTILE 4%
	96% Non-Asbestos			NON FIBROUS MATERIAL 96%
	Layer 2:	Mastic	Yes	Black, Bituminous
	7% Asbestos			CHRYSTILE 7%
	93% Non-Asbestos			NON FIBROUS MATERIAL 93%
19	27148114	Drywall		
	Layer 1:	Drywall	No	White, Powdery
	100% Non-Asbestos			CELLULOSE FIBER 10%, NON FIBROUS MATERIAL 90%
20	27148115	Elbow Mud		
	Layer 1:	Elbow Mud	Yes	Gray, Powdery
	5% Asbestos			AMOSITE 3%, CHRYSTILE 2%
	95% Non-Asbestos			MINERAL/GLASS WOOL 10%, NON FIBROUS MATERIAL 85%
	Layer 2:	Cover	No	White, Fibrous
	100% Non-Asbestos			CELLULOSE FIBER 90%, NON FIBROUS MATERIAL 10%

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
21	27148116 Layer 1: 6% Asbestos 94% Non-Asbestos	Elbow Mud Elbow Mud	Yes	Gray, Powdery AMOSITE 4%, CHRYSOTILE 2% MINERAL/GLASS WOOL 12%, NON FIBROUS MATERIAL 82%
22	27148117 Layer 1: 4% Asbestos 96% Non-Asbestos	Elbow Mud Elbow Mud	Yes	Gray, Powdery AMOSITE 2%, CHRYSOTILE 2% CELLULOSE FIBER 3%, MINERAL/GLASS WOOL 10%, NON FIBROUS MATERIAL 83%
23	27148118 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous MINERAL/GLASS WOOL 90%, NON FIBROUS MATERIAL 10%
24	27148119 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous MINERAL/GLASS WOOL 90%, NON FIBROUS MATERIAL 10%
25	27148120 Layer 1: 100% Non-Asbestos Layer 2: 10% Asbestos 90% Non-Asbestos	Room 126 Floor Tile Mastic	No Yes	Gray, Organically Bound NON FIBROUS MATERIAL 100% Black, Bituminous CHRYSOTILE 10% NON FIBROUS MATERIAL 90%
26	27148121 Layer 1: 100% Non-Asbestos	Room 126 Ceiling Material	No	Gray, Granular NON FIBROUS MATERIAL 100%
27	27148122 Layer 1: 100% Non-Asbestos	Pipe Insulation Pipe Insulation	No	Red, Spongy NON FIBROUS MATERIAL 100%
28	27148123 Layer 1: 12% Asbestos 88% Non-Asbestos	Pipe Elbow Pipe Elbow	Yes	Gray, Powdery CHRYSOTILE 12% NON FIBROUS MATERIAL 88%
29	27148124 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous CELLULOSE FIBER 40%, FOAMED GLASS 20%, MINERAL/GLASS WOOL 30%, NON FIBROUS MATERIAL 10%

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
30	27148125 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous MINERAL/GLASS WOOL 90%, NON FIBROUS MATERIAL 10%
31	27148126 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous CELLULOSE FIBER 40%, FOAMED GLASS 10%, MINERAL/GLASS WOOL 40%, NON FIBROUS MATERIAL 10%
32	27148127 Layer 1: 100% Non-Asbestos Layer 2: 100% Non-Asbestos <i>No Drywall found</i>	Drywall Base Coat Skim Coat	No No	Beige, Granular NON FIBROUS MATERIAL 100% White, Granular NON FIBROUS MATERIAL 100%
33	27148128 Layer 1: 100% Non-Asbestos Layer 2: 2% Asbestos 98% Non-Asbestos <i>Unable to separate individual layers.</i> Layer 3: < 1% (Trace) Asbestos 100% Non-Asbestos	Floor Tile Floor Tile Mastics Floor Tile	No Yes Yes	White, Organically Bound NON FIBROUS MATERIAL 100% Yellow/Black, Soft, Bituminous CHRYSTILE 2% CELLULOSE FIBER 3%, NON FIBROUS MATERIAL 95% Brown, Organically Bound CHRYSTILE < 1% NON FIBROUS MATERIAL 100%
34	27148129 Layer 1: 100% Non-Asbestos Layer 2: 100% Non-Asbestos	Floor Tile/Mastic Floor Tile Mastic	No No	Black, Organically Bound NON FIBROUS MATERIAL 100% Yellow, Soft NON FIBROUS MATERIAL 100%
35	27148130 Layer 1: 100% Non-Asbestos Layer 2: < 1% (Trace) Asbestos 100% Non-Asbestos <i>Unable to separate individual layers.</i>	Floor Tile Floor Tile Mastics Floor Tile	No Yes	Gray, Organically Bound NON FIBROUS MATERIAL 100% Brown/Black, Brittle, Bituminous CHRYSTILE < 1% CELLULOSE FIBER 2%, NON FIBROUS MATERIAL 98%

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Client Sample No.	SLI Sample/Layer ID	Sample Identification/Layer Name	Asbestos Detected (Yes/No)	Sample Description
36	27148131	Floor Tile Layer 1: Floor Tile 100% Non-Asbestos	No	White, Organically Bound NON FIBROUS MATERIAL 100%
		Layer 2: Mastic 5% Asbestos 95% Non-Asbestos	Yes	Black, Bituminous CHRYSTILE 5% NON FIBROUS MATERIAL 95%
37	27148132	Roof Material Layer 1: Asphalt Roof 100% Non-Asbestos	No	Black, Bituminous CELLULOSE FIBER 10%, NON FIBROUS MATERIAL 90%
38	27148133	Roof Material Layer 1: Asphalt Roof 100% Non-Asbestos	No	Gray/Black, Bituminous CELLULOSE FIBER 10%, NON FIBROUS MATERIAL 85%, SYNTHETIC FIBER 5%
39	27148134	Roof Material Layer 1: Roof Material 100% Non-Asbestos	No	Beige/Black, Rubbery NON FIBROUS MATERIAL 100%
40	27148135	Bsmt Bldg 403 Layer 1: Elbow TSI 8% Asbestos 92% Non-Asbestos	Yes	Gray, Powdery CHRYSTILE 8% MINERAL/GLASS WOOL 10%, NON FIBROUS MATERIAL 82%
41	27148136	TSI White Elbow Layer 1: TSI 6% Asbestos 94% Non-Asbestos	Yes	White, Powdery CHRYSTILE 6% MINERAL/GLASS WOOL 12%, NON FIBROUS MATERIAL 82%
42	27148137	TSI Gray Elbow Layer 1: TSI 12% Asbestos 88% Non-Asbestos	Yes	Gray, Powdery CHRYSTILE 12% MINERAL/GLASS WOOL 15%, NON FIBROUS MATERIAL 73%
43	27148138	Ceiling Tile Layer 1: Ceiling Tile 100% Non-Asbestos	No	White, Fibrous CELLULOSE FIBER 40%, FOAMED GLASS 10%, MINERAL/GLASS WOOL 40%, NON FIBROUS MATERIAL 10%
44	27148139	Drywall Layer 1: Drywall 100% Non-Asbestos	No	White, Powdery CELLULOSE FIBER 10%, NON FIBROUS MATERIAL 90%

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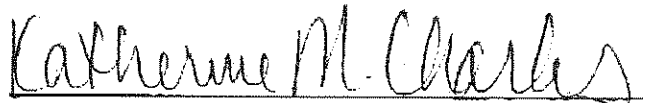
Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
	Layer 2:	Joint Compound	No	White, Granular
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
45	27148140	Ceiling Tile		
	Layer 1:	Ceiling Tile	No	White, Fibrous
	100% Non-Asbestos			MINERAL/GLASS WOOL 90%, NON FIBROUS MATERIAL 10%
46	27148141	Floor Tile/Mastic		
	Layer 1:	Floor Tile	Yes	Tan, Organically Bound
	5% Asbestos			CHRYSTOTILE 5%
	95% Non-Asbestos			NON FIBROUS MATERIAL 95%
	Layer 2:	Mastic	Yes	Black, Bituminous
	8% Asbestos			CHRYSTOTILE 8%
	92% Non-Asbestos			NON FIBROUS MATERIAL 92%
47	27148142	Floor Tile		
	Layer 1:	Floor Tile	No	Tan, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
	Layer 2:	Mastic	No	Brown, Brittle
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
48	27148143	Roofing Material		
	Layer 1:	Roofing Material	No	White, Spongy
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
49	27148144	Floor Tile		
	Layer 1:	Floor Tile	No	Dark Gray, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
	Layer 2:	Mastic	No	Yellow, Soft
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
50	27148145	Floor Tile		
	Layer 1:	Floor Tile	No	Light Blue, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
51	27148146	Floor Tile		
	Layer 1:	Floor Tile	No	Light Gray, Organically Bound
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%
	Layer 2:	Mastic	No	Yellow, Soft
	100% Non-Asbestos			NON FIBROUS MATERIAL 100%

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Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
52	27148147 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	White, Fibrous CELLULOSE FIBER 40%, FOAMED GLASS 20%, MINERAL/GLASS WOOL 30%, NON FIBROUS MATERIAL 10%
53	27148148 Layer 1: 100% Non-Asbestos	Ceiling Tile Ceiling Tile	No	Light Gray, Fibrous CELLULOSE FIBER 30%, FOAMED GLASS 15%, MINERAL/GLASS WOOL 40%, NON FIBROUS MATERIAL 15%
54	27148149 Layer 1: 100% Non-Asbestos	Asphalt Shingle Asphalt Shingle	No	Black, Bituminous MINERAL/GLASS WOOL 10%, NON FIBROUS MATERIAL 90%
55	27148150 Layer 1: 100% Non-Asbestos	Shingle Paper Shingle Paper	No	Black, Bituminous MINERAL/GLASS WOOL 20%, NON FIBROUS MATERIAL 80%

ANALYST: OMAR ABOUZAKI

Total no. of pages in report = 8



REVIEWED BY

Katherine M. Charles, Analyst

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Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

402

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
1	Grey 12 x 12 Floor Tile	Elevator	ND	N/A	No
2	Mastic for above mentioned sample	Elevator	ND	N/A	No
3	Black Asphalt Roofing	Roof	ND	N/A	No
4	Grey Asphalt Roofing	Roof	ND	N/A	No
5	Roofing Tar	Roof	ND	N/A	No
6	White 9x9 floor tile and mastic	4th floor near elevator and roof access	4 and 12 % Chrysotile	40 of Floor Tile and 72,158 of mastic	No
7	Grey 12 x 12 Floor Tile	4th floor near elevator and roof access	ND	N/A	No
8	Tan 9x9 floor tile and mastic	4th floor near elevator and roof access	6 and 10 % Chrysotile	40 of Floor Tile and 72,158 of mastic	No

Notes :

Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

402

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
9	2x2 White dotted ceiling tile	4th floor	ND	N/A	No
10	Elbow Mud	2nd floor end of hallway	2% Amosite and 4% Chrysotile	80	No
11	1x2 White dotted ceiling tile	3rd floor middle connecting room	ND	N/A	No
12	Textured Ceiling Finish	Room 213	ND	N/A	No
13	White Compound fireproofing	In dropped ceiling	ND	N/A	No
14	Pipe Insulation	1st Floor common area	ND	N/A	No
15	White and black specked 12x12 Floor Tile	Lobby	ND	N/A	No
16	Red 12x12 floor tile and mastic	Basement	ND	N/A	No
Notes :					

Asbestos Bulk Sampling and Analysis Sheet



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Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

402

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
17	9x9 Tan floor tile and mastic	Basement	5 and 12 % Chrysotile	2,500 of floor tile and 72,158 of mastic	No
18	12x12 maroon floor tile and mastic	Basement	ND	600 of floor tile and 72,158 of mastic	No
19	Drywall	Basement, room next to bathroom	ND	N/A	No
20	Elbow Mud	Basement Hallway	3% Amosite and 2% Chrysotile	100	No
21	Elbow Mud	Basement Hallway	4% Amosite and 2% Chrysotile	100	No
22	Elbow Mud	Basement Hallway	2% Amosite and 2% Chrysotile	100	No
23	2x2 Ceiling tile, tan smooth fiberglass	Basement	ND	N/A	No
24	2x2 Ceiling tile, shiny	Basement	ND	N/A	No
Notes :					

Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

403

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
25	12x12 Floor tile and mastic	Room 126	Mastic is 10% Chrysotile	168,438	No
26	Ceiling material	Room 126	ND	N/A	No
27	Red pipe insulation	Room 121 Storage	ND	N/A	No
28	Pipe elbow	Room 121 Storage	12 % Chrysotile	N/A	No
29	White 2x2 Speckled Ceiling Tile	Foyer	ND	N/A	No
30	Off white almost yellow 2x2 ceiling tile	Foyer	ND	N/A	No
31	White 2x4 ceiling tile	Main Room	ND	N/A	No
32	Dry wall Ceiling	1st floor laundry	ND	N/A	No
Notes :					

Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

403

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
33	White 12x12 Floor tile and mastic	Elevator	Mastic is 2% Chrysotile and floor tile is <1% Chrysotile	40	No
34	Black 12x12 floor tile and mastic	Elevator	ND	N/A	No
35	Grey 12 x 12 Floor tile, white and brown specks	2nd Floor	Mastic is 2% Chrysotile	168,438	No
36	Room 226 Floor tile	2nd Floor	Mastic is 5% Chrysotile	168,438	No
37	Black asphalt and roof roofing tar	Roof	ND	N/A	No
38	Grey asphalt roof	Roof	ND	N/A	No
39	Rubber roof, upper part	Building 402 Roof	ND	N/A	No
40	TSI Elbow	Basement main hall	8% Chrysotile	100	No
Notes :					

Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

403

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
41	TSI White	Basement near boiler room access	6% Chrysotile	100	No
42	TSI Grey	Elbow in basement near elevator	12% Chrysotile	2	No
43	2x2 ceiling tile tan speckled	Basement hallway	ND	N/A	No
44	Dry Wall	Basement	ND	N/A	No
45	2x4 Ceiling tile, tan and speckled	Room 13 Basement	ND	N/A	No
46	9x9 Tan floor tile and mastic	Room 13 Basement	Floor tile is 5% and mastic is 8%	5,000 floor tile and 168,438 mastic	No
47	12x12 Floortile, stair hallway tan and dotted	Basement Stairwell	ND	N/A	No
48	White roofing material	Roof	ND	N/A	No

Notes :

Asbestos Bulk Sampling and Analysis Sheet



Client : US Army Corp Of
Engineers, Baltimore
District

Date : 3/25/04 & 3/26/04

Project : Fort Myer

Inspector : Jim Lovell
Chris White

412

Sample ID	Suspect ACM	Location	Result	Estimated Quantity	Photo
49	12 x 12 Floor tile dark grey	Back Closet	ND	N/A	No
50	12x12 Light blue w/ white specs	Main area	ND	N/A	No
51	12x12 Light Grey	Kitchen	ND	N/A	No
52	2x2 Ceiling Tile Light Grey	Kitchen	ND	N/A	No
53	2x2 Ceiling tile light grey	Main room and office	ND	N/A	No
54	Asphalt shingle	Roof	ND	N/A	No
55	Shingle Paper	Roof	ND	N/A	No
56	White roofing material	Roof	ND	N/A	No
Notes :					



Schneider Laboratories, Inc.

2512 West Cary Street
804-353-8778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

Submitting **ERC Environmental, Inc.**

1311 Haubert St.

Baltimore, MD 21230-5219

Lab Use-NOI

Lot #
2791

Project Name **Fl. Myer**

Project Location **402, 403, 412**

Project Number

Purchase Order No.

Special Instructions [Include requests for special reporting or data packages]

Phone #
410-659-9971

FAX #
1-410-962-1065 Result Only

STATE WHERE SAMPLES WERE COLLECTED

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)																				
<input type="checkbox"/> 6-8 hours* <input type="checkbox"/> 24 hours* <input type="checkbox"/> 48 hours* <input checked="" type="checkbox"/> 72 hour* <input type="checkbox"/> STANDARD (5 days) <input type="checkbox"/> Standard Full TCLP (10d) <input type="checkbox"/> Weekend* <input type="checkbox"/> not available for all tests Schedule rush organics, multi-metals & weekend tests in advance.	All samples on form should be of SAME matrix type. Use additional forms as needed. <table border="0"><tr><td><input type="checkbox"/> Air</td><td><input type="checkbox"/> Solid</td></tr><tr><td><input type="checkbox"/> Aqueous</td><td><input type="checkbox"/> Waste</td></tr><tr><td><input checked="" type="checkbox"/> Bulk</td><td><input type="checkbox"/> Wastewater</td></tr><tr><td><input type="checkbox"/> Hi-Vol Filter (PM10)</td><td><input type="checkbox"/> Water, Drinking</td></tr><tr><td><input type="checkbox"/> Hi-Vol Filter (TSP)</td><td><input type="checkbox"/> Compliance</td></tr><tr><td><input type="checkbox"/> Oil</td><td><input type="checkbox"/> Wipe</td></tr><tr><td><input type="checkbox"/> Paint</td><td><input type="checkbox"/> Wipe, Composite</td></tr><tr><td><input type="checkbox"/> Sludge</td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/> Soil</td><td><input type="checkbox"/></td></tr></table>	<input type="checkbox"/> Air	<input type="checkbox"/> Solid	<input type="checkbox"/> Aqueous	<input type="checkbox"/> Waste	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Hi-Vol Filter (PM10)	<input type="checkbox"/> Water, Drinking	<input type="checkbox"/> Hi-Vol Filter (TSP)	<input type="checkbox"/> Compliance	<input type="checkbox"/> Oil	<input type="checkbox"/> Wipe	<input type="checkbox"/> Paint	<input type="checkbox"/> Wipe, Composite	<input type="checkbox"/> Sludge	<input type="checkbox"/>	<input type="checkbox"/> Soil	<input type="checkbox"/>	Asbestos Air / Fiber Counts <input type="checkbox"/> PCM (NIOSH 7400) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II) <input type="checkbox"/>	Asbestos Bulk / Asb ID <input checked="" type="checkbox"/> PLM (EPA 600, 1993) <input type="checkbox"/> PLM (EPA Point Count) <input type="checkbox"/> PLM (Qualitative only) <input type="checkbox"/> NYELAP 198.1/4 <input type="checkbox"/> CAELAP (EPA Interim) <input type="checkbox"/> TEM (Chatfield) FOR ASBESTOS AIR: TYPE OF RESPIRATOR USED:	Metals: Total Conc. <input type="checkbox"/> Lead <input type="checkbox"/> RCRA Metals <input type="checkbox"/> Extraction Procedures <input type="checkbox"/> TCLP / Lead <input type="checkbox"/> TCLP / RCRA Metal Profile <input type="checkbox"/> TCLP / FULL (w/ organics) <input type="checkbox"/>
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ORGANICS TESTS and other Analytes

NOTE: All samples for organics should be kept at 4°C from collection until testing. Schedule rush analyses in advance. Indicate preservatives added & media type. Indicate analysis method for organics tests.

Sample #	Date Sampled	Organics		Wipes		Information for Air Samples				Organics	
		Time	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴ Air Vol	# containers
1	3/25/04		Gray 12x12 Floor Tile		Elevator						
2			Gray 12x12 Floor Tile Mastic		Elevator						
3			Black Asphalt Roofing		Roof						
4			Gray Asphalt Roofing		Roof						
5			Roofing Tar		Roof						
6			White 9x9 Floor Tile + Mastic		4th Floor						
7			Gray 12x12 Floor Tile		4th Floor						
8			9x9 Tan 12x16 Floor Tile		4th Floor						
9			7'x2' White Dotted Ceiling Tile		4th Floor						

Sample Collection & Custody Information

Sampled by [NAME] **C. White** [SIGNATURE] **C. White** [DATE/TIME] **3/25/04** [] Sample return requested
Relinquished by [NAME] [SIGNATURE] [DATE/TIME] [] Ambient temp [] Cool _____ °C
Received by [NAME] [SIGNATURE] [DATE/TIME] [] pH [] Cl [] R [] S
[] FX [] AB [] UPS [] USM [] HD [] DB [] COURIER

Unusual Sample Condition Noted:

WAYBILL #

Chain-of-Custody document continued internally within lab.

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Submitting to: Arc Environmental, Inc.
1311 Haubert St
Baltimore, MD 21230-5219

Lab Use Only

Acct #
2791

Project Name Fr. Myer
Project Location 402, 403, 412
Project Number _____
Purchase Order No. _____

Special Instructions [include requests for special reporting or data packages]

Phone #
410-659-9971

FAX #
1-410-962-1065 Result Only

STATE WHERE SAMPLES WERE COLLECTED _____

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)			ORGANICS TESTS and other Analytes																																																	
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Organics			Wipes		Information for Air Samples				Organics		
Sample #	Date Sampled	Time	Sample Identification (e.g. Employee, SSN, Bldg. Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴ Air Vol	# containers
						Start	Stop	Start	Stop		
10	3/25/07		Elbow Mud		2nd Floor	Hall					
11			1'x2' White dotted Ceiling Tile		3rd Floor						
12			Ceiling Finish	213							
13			White Drop Ceiling Compound								
14			Pipe Insulation	1st Floor							
15			White & Black Spotted 12x12 Floor Tile			Lobby					
16			Red 12x12 Floor Tile + Mortar			Basement					
17			9x9 Tan Floor Tile + Mortar			Basement					
18	V		12x12 Maroon Floor Tile			Basement					

Sample Collection & Custody Information			Type: Asarea Dblank P-personal Exposure	Beginning/End of Sample Period	Pump Calibration in Liters/Minute	Volume in Liters (time in min * flow in L/min)
Sampled by [NAME] <u>C. White</u>	[SIGNATURE] <u>C. White</u>	[DATE/TIME] <u>3/25/07</u>				
Relinquished by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____				<input type="checkbox"/> Sample return requested
Received by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____				<input type="checkbox"/> Ambient temp <input type="checkbox"/> Cool _____ °C
<input type="checkbox"/> FX <input type="checkbox"/> AB <input type="checkbox"/> UPS <input type="checkbox"/> USM <input type="checkbox"/> HD <input type="checkbox"/> DB <input type="checkbox"/> COURIER			<input type="checkbox"/> pH _____ <input type="checkbox"/> Cl _____ <input type="checkbox"/> R _____ <input type="checkbox"/> S _____			
Unusual Sample Condition Noted: _____			WAYBILL # _____			

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Sample #	Date Sampled	Time	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wipes		Information for Air Samples				Organics	
				Wiped Area (ft²)	Type¹	Time²		Flow Rate³		Total⁴	# containers
					A.B.P.E.	Start	Stop	Start	Stop	Air Vol	
19	3/25/04		Dry Wall								
20			Elbow Mud								
21			Elbow Mud								
22			Elbow Mud								
23			2'x2' Ceiling Tile Tan								
24			2'x2' Shiny Ceiling Tile								
25			12x12 Floor Tile, Mastic								
26			Ceiling Material								
27	V		Pee Insulation Red								

Sample Collection & Custody Information				Type: Asarea, Bulk, Personal, Excursion	Beginning/End of Sample Period	Pump Calibration in Liters/Minute	Volume in Liters (Time in min * flow in L/min)
Sampled by [NAME] <u>C. White</u>	[SIGNATURE] <u>C. White</u>	[DATE/TIME] <u>3/25/04</u>	[] Sample return requested				
Relinquished by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____	[] Ambient temp [] Cool _____ °C				
Received by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____	[] pH [] Cl [] R [] S				
[] FX [] AB [] UPS [] USM [] HD [] DB [] COURIER							
Unusual Sample Condition Noted: _____				WAYBILL #			

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STATE WHERE SAMPLES WERE COLLECTED

Turn Around Time

Matrix / Sample Type (Select ONE)

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ORGANICS TESTS and other Analytes

6-8 hours*

24 hours*

48 hours*

72 hour*

STANDARD (5 days)

Standard Full TCLP (10d)

Weekend*

not available for all tests

Schedule rush organics, multi-metals & weekend tests in advance.

All samples on form should be of SAME

matrix type. Use additional forms as needed.

Air

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Aqueous

Waste

Bulk

Wastewater

Hi-Vol Filter (PM10)

Water, Drinking

Hi-Vol Filter (TSP)

Compliance

Oil

Wipe

Paint

Wipe, Composite

Sludge

Soil

Asbestos Air / Fiber Counts

PCM (NIOSH 7400)

TEM (AHERA)

TEM (EPA Level II)

Miscellaneous Tests

Total Dust (NIOSH 0500)

Resp. Dust (NIOSH 0600)

Silica - FTIR (NIOSH 7602)

Silica - XRD (NIOSH 7500)

Asbestos Bulk / Aab ID

PLM (EPA 600, 1993)

PLM (EPA Point Count)

PLM (Qualitative only)

NYELAP 198.1/4

CAELAP (EPA Interim)

TEM (Chatfield)

FOR ASBESTOS AIR:

TYPE OF RESPIRATOR

USED:

Metals Total Conc.

Lead

RCRA Metals

Extraction Procedures

TCLP / Lead

TCLP / RCRA Metal Profile

TCLP / FULL (w/ organics)

NOTE: All samples for organics should be kept at 4°C from collection until testing. Schedule rush analyses in advance. Indicate preservatives added & media type. Indicate analysis method for organics tests.

Sample #	Date Sampled	Time	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wipes		Information for Air Samples				Organics	
				Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴ Air Vol	# con- tainers
						Start	Stop	Start	Stop		
28	3/25/04		Pipe Elbow								
29			2'x2' White Speckled Ceiling Tile								
30			2'x2' Off-white Ceiling Tile								
31			2'x4' White Ceiling Tile								
32			Dry Wall								
33			12x12 White Floor Tile								
34			12x12 Black Floor Tile + Mosaic								
35			12x12 Grey Floor Tile								
36			12x12 White / Brown Floor Tile								

Sample Collection & Custody Information

Type: Asbestos Bulk Personal Exposure

Beginning/End of Sample Period

Pump Calibration in Liters/Minute

Volume in Liters (Time in min • flow in L/min)

Sampled by

[NAME]

G. White

[SIGNATURE]

G. White

[DATE/TIME]

3/25/04

[] Sample return requested

Relinquished by

[NAME]

[SIGNATURE]

[DATE/TIME]

[] Ambient temp [] Cool _____°C

Received by

[NAME]

[SIGNATURE]

[DATE/TIME]

[] pH [] Cl [] R [] S

[] FX [] AB [] UPS [] USM [] HD [] DB [] COURIER

Unusual Sample Condition Noted:

WAYBILL #

Chain-of-Custody document continued internally within lab.

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Schneider Laboratories, Inc.

2512 West Cary Street Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

Submitting to: Arc Environmental, Inc.

1311 Haubert St

Baltimore, MD 21230-5219

Lab Use Only

Acc #
2791

Project Name Fl. Myer

Project Location 402, 403, 412

Project Number

Purchase Order No.

Special Instructions [include requests for special reporting or data packages]

Phone #
410-659-9971

FAX #
1-410-962-1065 Result Only

STATE WHERE SAMPLES WERE COLLECTED

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)			ORGANICS TESTS and other Analytes																																																	
<input type="checkbox"/> 6-8 hours* <input type="checkbox"/> 24 hours* <input type="checkbox"/> 48 hours* <input checked="" type="checkbox"/> 72 hour* <input type="checkbox"/> STANDARD (5 days) <input type="checkbox"/> Standard Full TCLP (10d) <input type="checkbox"/> Weekend* <input type="checkbox"/> not available for all tests Schedule rush organics, multi-metals & weekend tests in advance.	All samples on form should be of SAME matrix type. Use additional forms as needed. <table border="0"><tr><td><input type="checkbox"/> Air</td><td><input type="checkbox"/> Solid</td></tr><tr><td><input type="checkbox"/> Aqueous</td><td><input type="checkbox"/> Waste</td></tr><tr><td><input checked="" type="checkbox"/> Bulk</td><td><input type="checkbox"/> Wastewater</td></tr><tr><td><input type="checkbox"/> Hi-Vol Filter (PM10)</td><td><input type="checkbox"/> Water, Drinking</td></tr><tr><td><input type="checkbox"/> Hi-Vol Filter (TSP)</td><td><input type="checkbox"/> Compliance</td></tr><tr><td><input type="checkbox"/> Oil</td><td><input type="checkbox"/> Wipe</td></tr><tr><td><input type="checkbox"/> Paint</td><td><input type="checkbox"/> Wipe, Composite</td></tr><tr><td><input type="checkbox"/> Sludge</td><td><input type="checkbox"/></td></tr><tr><td><input type="checkbox"/> Soil</td><td><input type="checkbox"/></td></tr></table>	<input type="checkbox"/> Air	<input type="checkbox"/> Solid	<input type="checkbox"/> Aqueous	<input type="checkbox"/> Waste	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Hi-Vol Filter (PM10)	<input type="checkbox"/> Water, Drinking	<input type="checkbox"/> Hi-Vol Filter (TSP)	<input type="checkbox"/> Compliance	<input type="checkbox"/> Oil	<input type="checkbox"/> Wipe	<input type="checkbox"/> Paint	<input type="checkbox"/> Wipe, Composite	<input type="checkbox"/> Sludge	<input type="checkbox"/>	<input type="checkbox"/> Soil	<input type="checkbox"/>	<table border="0"><tr><td>Asbestos Air / Fiber Counts</td><td>Asbestos Bulk / Asb ID</td><td>Metals Total Conc.</td></tr><tr><td><input type="checkbox"/> PCM (NIOSH 7400)</td><td><input checked="" type="checkbox"/> PLM (EPA 600, 1993)</td><td><input type="checkbox"/> Lead</td></tr><tr><td><input type="checkbox"/> TEM (AHERA)</td><td><input type="checkbox"/> PLM (EPA Point Count)</td><td><input type="checkbox"/> RCRA Metals</td></tr><tr><td><input type="checkbox"/> TEM (EPA Level II)</td><td><input type="checkbox"/> PLM (Qualitative only)</td><td><input type="checkbox"/></td></tr><tr><td></td><td><input type="checkbox"/> NYELAP 198 1/4</td><td><input type="checkbox"/></td></tr><tr><td></td><td><input type="checkbox"/> CAELAP (EPA Interim)</td><td>Extraction Procedures</td></tr><tr><td></td><td><input type="checkbox"/> TEM (Chaffield)</td><td><input type="checkbox"/> TCLP / Lead</td></tr><tr><td></td><td></td><td><input type="checkbox"/> TCLP / RCRA Metal Profile</td></tr><tr><td></td><td></td><td><input type="checkbox"/> TCLP / FULL (w/ organics)</td></tr><tr><td></td><td></td><td><input type="checkbox"/></td></tr><tr><td></td><td></td><td><input type="checkbox"/></td></tr></table>	Asbestos Air / Fiber Counts	Asbestos Bulk / Asb ID	Metals Total Conc.	<input type="checkbox"/> PCM (NIOSH 7400)	<input checked="" type="checkbox"/> PLM (EPA 600, 1993)	<input type="checkbox"/> Lead	<input type="checkbox"/> TEM (AHERA)	<input type="checkbox"/> PLM (EPA Point Count)	<input type="checkbox"/> RCRA Metals	<input type="checkbox"/> TEM (EPA Level II)	<input type="checkbox"/> PLM (Qualitative only)	<input type="checkbox"/>		<input type="checkbox"/> NYELAP 198 1/4	<input type="checkbox"/>		<input type="checkbox"/> CAELAP (EPA Interim)	Extraction Procedures		<input type="checkbox"/> TEM (Chaffield)	<input type="checkbox"/> TCLP / Lead			<input type="checkbox"/> TCLP / RCRA Metal Profile			<input type="checkbox"/> TCLP / FULL (w/ organics)			<input type="checkbox"/>			<input type="checkbox"/>	NOTE: All samples for organics should be kept at 4°C from collection until testing. Schedule rush analyses in advance. Indicate preservatives added & media type. Indicate analysis method for organics tests.
<input type="checkbox"/> Air	<input type="checkbox"/> Solid																																																					
<input type="checkbox"/> Aqueous	<input type="checkbox"/> Waste																																																					
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		<input type="checkbox"/>																																																				
		Miscellaneous Tests	FOR ASBESTOS AIR:																																																			
		<input type="checkbox"/> Total Dust (NIOSH 0500)	TYPE OF RESPIRATOR																																																			
		<input type="checkbox"/> Resp. Dust (NIOSH 0600)	USED:																																																			
		<input type="checkbox"/> Silica - FTIR (NIOSH 7602)																																																				
		<input type="checkbox"/> Silica - XRD (NIOSH 7500)																																																				

Organics			Wipes		Information for Air Samples				Organics		
Sample #	Date Sampled	Time	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴	# con- tainers
						Start	Stop	Start	Stop	Air Vol	
37	3/25/04		Black Asphalt Roof Material								
38			Grey Asphalt Roof Material								
39			Rubber Roof Material								
40			Elbow TSI		Basement Building 403						
41			TSI White Elbow								
42			TSI Grey Elbow								
43			2'x2' Ceiling Tile White								
44			Dry Wall								
45			2'x4' Tan Ceiling Tile								

Sample Collection & Custody Information			Type: Area or Personal Exposure	Beginning/End of Sample Period	Pump Calibration in Liters/Minute	Volume in Liters (find in rxn + flow in L/min)
Sampled by [NAME] <u>C. White</u>	[SIGNATURE] <u>C. White</u>	[DATE/TIME] <u>3/25/04</u>				<input type="checkbox"/> Sample return requested
Relinquished by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____				<input type="checkbox"/> Ambient temp <input type="checkbox"/> Cool _____ °C
Received by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____				<input type="checkbox"/> pH <input type="checkbox"/> Cl <input type="checkbox"/> R <input type="checkbox"/> S
[] FX [] AB [] UPS [] USM [] HD [] DB [] COURIER						
Unusual Sample Condition Noted: _____			WAYBILL # _____			

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Lab Use-Work

Acct #

2791

Phone #

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FAX #

1-410-962-1065 Result Only

Project Name Fl. Meyer

Project Location 407, 403, 412

Project Number _____

Purchase Order No. _____

Special Instructions [include requests for special reporting or data packages]

STATE WHERE SAMPLES WERE COLLECTED _____

Turn Around Time	Matrix / Sample Type (Select ONE)	Tests / Analytes (Select ALL that Apply)		
<input type="checkbox"/> 6-8 hours*	All samples on form should be of <u>SAME</u> matrix type. Use additional forms as needed. <input type="checkbox"/> Air <input type="checkbox"/> Solid <input type="checkbox"/> Aqueous <input type="checkbox"/> Waste <input checked="" type="checkbox"/> Bulk <input type="checkbox"/> Wastewater <input type="checkbox"/> Hi-Vol Filter (PM10) <input type="checkbox"/> Water, Drinking <input type="checkbox"/> Hi-Vol Filter (TSP) <input type="checkbox"/> Compliance <input type="checkbox"/> Oil <input type="checkbox"/> Wipe <input type="checkbox"/> Paint <input type="checkbox"/> Wipe, Composite <input type="checkbox"/> Sludge <input type="checkbox"/> _____ <input type="checkbox"/> Soil <input type="checkbox"/> _____	<input type="checkbox"/> Asbestos Air / Fiber Counts	<input type="checkbox"/> Asbestos Bulk / Ash ID	<input type="checkbox"/> Metals - Total Conc
<input type="checkbox"/> 24 hours*		<input type="checkbox"/> PCM (NIOSH 7400)	<input checked="" type="checkbox"/> PLM (EPA 600, 1993)	<input type="checkbox"/> Lead
<input type="checkbox"/> 48 hours*		<input type="checkbox"/> TEM (AHERA)	<input type="checkbox"/> PLM (EPA Point Count)	<input type="checkbox"/> RCRA Metals
<input checked="" type="checkbox"/> 72 hour*		<input type="checkbox"/> TEM (EPA Level II)	<input type="checkbox"/> PLM (Qualitative only)	<input type="checkbox"/> _____
<input type="checkbox"/> STANDARD (5 days)		<input type="checkbox"/> NYELAP 198.1/4	<input type="checkbox"/> _____	
<input type="checkbox"/> Standard Full TCLP (10d)		<input type="checkbox"/> CAELAP (EPA Interim)	<input type="checkbox"/> Extraction Procedures	
<input type="checkbox"/> Weekend*		<input type="checkbox"/> TEM (Chatfield)	<input type="checkbox"/> TCLP / Lead	
<input type="checkbox"/> _____		<input type="checkbox"/> Total Dust (NIOSH 0500)	<input type="checkbox"/> TCLP / RCRA Metal Profile	
* not available for all tests		<input type="checkbox"/> Resp. Dust (NIOSH 0600)	<input type="checkbox"/> TCLP / FULL (w/ organics)	
Schedule rush organics, multi-metals & weekend tests in advance.		<input type="checkbox"/> Silica - FTIR (NIOSH 7602)	<input type="checkbox"/> _____	
		<input type="checkbox"/> Silica - XRD (NIOSH 7500)	<input type="checkbox"/> _____	

NOTE: All samples for organics should be kept at 4°C from collection until testing. Schedule rush analyses in advance. Indicate preservatives added & media type. Indicate analysis method for organics tests.

Organics			Wipes	Information for Air Samples						Organics	
Sample #	Date Sampled	Time	Sample Identification (e.g. Employee, SSN, Bldg, Material)	Wiped Area (ft²)	Type¹ A,B,P,E	Time²		Flow Rate³		Total⁴ Air Vol	# con- tainers
						Start	Stop	Start	Stop		
46	3/25/01		9x9 Tan Floor Tile + Marble								
47			12x12 Tan Floor Tile								
48			White Roofing Material								
49			12x12 Dark Grey Floor Tile								
50			12x12 Light Blue Floor Tile								
51			12x12 Light Grey Floor Tile								
52			2'x2' White Dotted Ceiling Tile								
53			2'x2' Light Grey Ceiling Tile								
54			Asphalt Shingle								
55			Shingle Paper								

Sample Collection & Custody Information			Type: Aerosol / Tank / Personal Breathing	Beginning/End of Sample Period	Pump Calibration in Liters/Minute	Volume in Liters (Time in min * flow in L/min)
Sampled by [NAME] <u>C. White</u>	[SIGNATURE] <u>C. White</u>	[DATE/TIME] <u>3/25/01</u>	<input type="checkbox"/> Sample return requested			
Relinquished by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____	<input type="checkbox"/> Ambient temp <input type="checkbox"/> Cool _____ °C			
Received by [NAME] _____	[SIGNATURE] _____	[DATE/TIME] _____	<input type="checkbox"/> pH <input type="checkbox"/> Cl <input type="checkbox"/> R <input type="checkbox"/> S			
[] FX [] AB [] UPS [] USM [] HD [] DB [] COURIER						
Unusual Sample Condition Noted: _____			WAYBILL # _____			

Chain-of-Custody document continued internally within lab.

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Lead-Based Paint Testing Data Sheet

Client Name: U.S. Army Corp of Engineers

Inspection Address: Buildings 402, 403, 412 at Fort Myers Virginia

Technician: Shannon Cavaliere Date: 2 / 9 / 04

Room	Wall	Component	Paint Condition	Result	P,N,I
Building 412 Reception	A	Walls	Intact	0.1	N
	B			0.0	N
	C			0.1	N
	D			0.1	N
	A	Door		0.0	N
	A	Door Frame		0.3	N
	D	Baseboard		0.2	N
	B	Window Casing		0.1	N
	B	Window Sill		0.0	N
Conference Room	A	Walls		0.0	N
	B			0.2	N
	C			0.0	N
	D			0.3	N
	A	Baseboard		0.1	N
	D	Door		0.1	N
	D	Door Frame		0.2	N
George Smith's Office	A	Walls		0.0	N
	B			0.1	N
	C			0.2	N
	D			0.1	N

Wall: A = a component tested on the closest wall parallel to the front door of the property. B, C, and D would be assigned in a clockwise fashion. Numbered digits are used if multiple components exist on the same wall (numbered left to right).

Component: D = door DJ = door jamb DC = door case CL = ceiling W = wall
 WS = window sash WIS = window sill WC = window case WW = window well HR = handrail
 BB = baseboard S = shelf SP = shelf support C- = closet P = post

Paint Condition: I = Intact; F = Fair; and P = Poor. A visual assessment of the paint film condition for a component tested or similar components in the same room but not tested.

Result: P = Positive; N = Negative; and I = Inconclusive

Initial Calibration Check: 1) 1.04 2) 0.97 3) 0.98 Average 1.00 Pass or Fail
 Middle Calibration Check: 1) 1.00 2) 1.12 3) 1.06 Average 1.06 Pass or Fail
 Final Calibration Check: 1) 1.10 2) 0.99 3) 1.04 Average 1.04 Pass or Fail

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
George Smith's Office cont.	D	Window Sash	Intact	0.2	2
	D	Window Sill		0.1	2
	D	Window Casing		0.1	2
	A	Baseboard		0.3	2
	B	Door		0.2	2
	B	Door Frame		0.1	2
Copy Room	A	Walls		0.1	2
	B	↓ ↓		0.1	2
	C			0.2	2
	D	↓ ↓		0.1	2
	B	Door		0.1	2
	B	Door Frame		0.0	2
	C	Window Components		0.2	2
Bathroom Hallway	A	Walls		0.0	2
	B	↓ ↓		0.0	2
	C			0.0	2
	D	↓ ↓		0.1	2
	C	Closet Door Components		0.0	2
Men's Bathroom	A	Walls		0.3	2
	B	↓ ↓		0.1	2
	D	Window Components		0.2	2
	B	Door Components		0.1	2
Mechanical Room	B	Walls		0.2	2
	C	↓ ↓		0.1	2
	D	↓ ↓		0.1	2
	C	Door Components		0.0	2
	B	Window Components		0.1	2
Women's Bathroom	-	Ceiling	Y	0.1	2
	A	Door Components		0.0	2
	C	Window Components		0.0	2

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Jerry Blist Office	B	Walls	Intact	0.0	N
	D	↓	↓	0.0	N
	D	Door Frame		0.1	N
	C	Window Components		0.3	N
	C	Baseboard		0.2	N
Sergeant Major Office	B	Walls		0.1	N
	C	↓	↓	0.2	N
	B	Window Components		0.0	N
	D	Door Frame		0.0	N
	C	Baseboard		0.2	N
Daniel Thompson Office	B	Door		0.0	N
	B	Door Frame		0.2	N
	A	Walls		0.0	N
	B	↓	↓	0.1	N
	C	↓	↓	0.0	N
	A	Baseboard		0.3	N
	A	Window Components	↓	0.1	N
	412 Exterior	A	Window Casings	Fair	6.0
	B	↓	↓	7.5	P
	C	↓	↓	7.1	P
	D	↓	↓	6.8	P
	B	Exterior Window Sill	↓	0.2	N
	B	Soffit	Assume Positive		
	C	Exterior Window Sill	↓	0.3	N
	A	Handrail	↓	0.4	N
END OF DATA FOR BUILDING 412					

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Building 403 Office Hall	B	Walls	Intact	0.0	N
	D	↓ ↓		0.1	N
	D	Wainscoting		0.4	N
Women's Bathroom	D	Door		0.0	N
	D	Door Frame		0.1	N
	A	Walls		0.0	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.2	N
Men's Bathroom	D	↓ ↓		0.1	N
	A	Walls		0.1	N
	C	↓ ↓		0.0	N
	D	Door Components		0.0	N
	D	Door Components		0.0	N
Classroom 1	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.0	N
	-	Ceiling		0.2	N
	C	Door		0.1	N
	C	Door Frame		0.0	N
	C	Door Frame		0.0	N
Basement Lobby	A	Walls		0.0	N
	D	↓ ↓		0.3	N
	C	Pipe		3.0	P
Mechanical Room	D	Door		0.1	N
	D	Door Frame	↓	0.1	N
	B	Walls	Poor	0.0	N
	C	↓ ↓	Poor	0.0	N
Main Hallway	A	Walls	Intact	0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.2	N
	D	↓ ↓		0.0	N
	-	HVAC Vents	↓	0.2	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Main Women's Bathroom	A	Walls	Poor	0.1	N
	B	↓	Fair	0.2	N
	C	↓	Fair	0.0	N
	D	↓	Poor	0.0	N
	C	Bathroom Stall	Intact	0.4	N
	B	Door	↓	0.1	N
	B	Door Frame	↓	0.0	N
Main Men's Bathroom	A	Walls	↓	0.1	N
	B	↓	↓	0.0	N
	C	↓	↓	0.3	N
	D	↓	Poor	0.1	N
	D	Bathroom Stall	Intact	0.3	N
	B	Door Components	↓	0.0	N
Main Connecting Hall	A	Door	Poor	0.1	N
	A	Door Frame	Poor	0.1	N
	A	Walls	Fair	0.2	N
	C	↓	↓	0.1	N
	B	↓	Intact	0.3	N
Room Across Class 1	A	Walls	↓	0.1	N
	B	↓	↓	0.0	N
	C	↓	↓	0.0	N
	D	↓	↓	0.0	N
	C	Storage Door	↓	0.1	N
	D	Door Frame	Fair	0.0	N
	B	Heater Cover	↓	0.3	N
	B	Window Sash	Intact	0.0	N
Ops / Training Office	A	Walls	↓	0.1	N
	B	↓	↓	0.0	N
	D	↓	↓	0.0	N
	B	Door Frame	↓	0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Sgt. Hughes Admin. Office	A	Walls	Intact	0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.1	N
	B	Window Sash		0.1	N
	D	Door Frame		0.0	N
Main Hallway	A	Walls		0.2	N
	B	↓ ↓		0.1	N
	C	↓ ↓		0.0	N
	D	↓ ↓		0.1	N
	A	Door		0.0	N
	A	Door Frame		0.0	N
Wing A+B Lobby (1st Floor)	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.1	N
	-	Support Column		0.0	N
	A	Vent Cover		0.4	N
Wing A 1st Floor Laundry	A	Walls		0.0	N
	C	↓ ↓		0.2	N
	D	↓ ↓		0.2	N
	D	Door Frame		0.3	N
	B	Radiator Cover		0.2	N
Wing A 1st Floor Men's Bathroom	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.1	N
	D	↓ ↓		0.1	N
	D	Bathroom Stall		0.0	N
Wing A 1st Floor Hall	D	Door Frame		0.0	N
	B	Walls		0.1	N
	D	↓ ↓		0.1	N
	B + D	Door Frames	↓	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
1st Floor Lounge	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.0	N
	D	↓ ↓		0.0	N
	A	Radiator Cover		0.3	N
	-	Support Column		0.1	N
	D	Mailbox Casing		0.3	N
Wings C+D Common Area (1st Floor)	A	Walls		0.0	N
	B	↓ ↓		0.1	N
	D	↓ ↓		0.1	N
	-	Support Column	↓	0.2	N
	C	Elevator Door	Fair	0.0	N
	C	Elevator Door Casing	Fair	0.0	N
	B	Radiator Cover	Fair	0.2	N
Wing D 1st Floor Laundry	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.1	N
	C			0.2	N
	B	Door Frame		0.0	N
Wing D 1st Floor Men's (194)	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C			0.0	N
	D	↓ ↓		0.0	N
	B	Door Frame		0.0	N
Wing D Room 193	A	Walls		0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.2	N
	D	↓ ↓	↓	0.1	N
	B	Closet Door	Fair	0.4	N
	B	Closet Shelf	Intact	0.1	N
	B	Door Frame	↓	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing D Room 179	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C			0.2	N
	D	↓ ↓	↓	0.1	N
	B	Door Frame	↓	0.0	N
	B	Closet Door	Fair	0.3	N
	B	Closet Shelf	↓	0.1	N
	D	Radiator Cover	↓	0.2	N
Wing D Room 180	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C		↓	0.0	N
	B	↓ ↓	↓	0.0	N
	B	Closet Door	Fair	0.2	N
	B	Closet Shelf	↓	0.1	N
	D	Door Frame	↓	0.1	N
	D	Radiator Cover	↓	0.3	N
Wing D Room 185	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C		↓	0.0	N
	D	↓ ↓	↓	0.1	N
	D	Closet Door	Fair	0.2	N
	D	Closet Shelf	↓	0.1	N
	D	Door Frame	↓	0.0	N
	B	Radiator Cover	↓	0.1	N
Wing D Hallway (1st Floor)	B	Walls	Intact	0.0	N
	D	↓ ↓	↓	0.0	N
Wing C Hallway (1st Floor)	B	Walls		0.0	N
	D	↓ ↓	↓	0.0	N
	C	Door Frame	↓	0.0	N
	-	Ceiling	↓	0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing C 1st Floor Laundry	A	Walls	Intact	0.0	N
	C	↓ ↓	↓	0.1	N
	D			0.0	N
	B	Door Frame		0.0	N
Wing C Room 167	A	Walls		0.1	N
	B	↓ ↓		0.1	N
	C	↓ ↓		0.0	N
	D			0.1	N
	D	Closet Door		0.1	N
	D	Closet Shelf		0.0	N
	D	Radiator Cover		0.3	N
	B	Door Frame		0.0	N
Wing C Room 152	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.1	N
	D	↓ ↓	↓	0.1	N
	B	Radiator Cover	Fair	0.4	N
	D	Door Frame	↓	0.0	N
	D	Closet Door		0.3	N
	D	Closet Shelf	↓	0.1	N
Wing C Room 163	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.2	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	D	Radiator Cover	Fair	0.3	N
	D	Closet Door	↓	0.3	N
	B	Closet Shelf	↓	0.1	N
	B	Door Frame	Intact	0.1	N
Wing C Men's bathroom	B	Door Frame	↓	0.0	N
	B	Bathroom Stall	↓	0.4	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wings C/D Common Area (2nd Floor)	A	Walls	Intact	0.0	N
	B			0.0	N
	C			0.1	N
	D			0.2	N
	-	Support Column		0.1	N
Wing C 2nd Floor Hall	B	Radiator Cover		0.3	N
	C	Door Frame		0.6	N
	B	Walls		0.0	N
	D			0.6	N
Wing C 2nd Floor Laundry	A			0.0	N
	B	Door Frame		0.1	N
	A	Walls		0.1	N
	B			0.2	N
	C			0.1	N
Wing C Room 268	D			0.1	N
	A	Walls		0.1	N
	B			0.0	N
	C			0.1	N
	D			0.0	N
	D	Radiator Cover	Fair	0.3	N
	B	Closet Door		0.2	N
	B	Closet Shelf		0.0	N
	B	Door Frame	Intact	0.1	N
	A	Walls		0.2	N
Wing C Room 264	B			0.1	N
	C			0.0	N
	D	Radiator Cover	Fair	0.3	N
	D	Closet Door		0.3	N
	D	Closet Shelf		0.1	N
	B	Door Frame	Intact	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing C Room 253	A	Walls	Intact	0.2	N
	B	↓ ↓	↓	0.2	N
	C			0.1	N
	D	↓ ↓	↓	0.2	N
	D	Door Frame	↓	0.1	N
	D	Closet Door	Fair	0.4	N
	B	Closet Shelf	↓	0.2	N
	B	Radiator Cover	↓	0.4	N
2nd Floor Lounge	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.0	N
	D	↓ ↓	↓	0.0	N
	-	Support Column	↓	0.1	N
	A	Radiator Cover	Fair	0.3	N
2nd Floor Weights / Equip. Storage	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C			0.0	N
	D	↓ ↓	↓	0.2	N
	A	Door Frame		0.1	N
	B	Closet Door		0.2	N
	B	Closet Door Frame		0.2	N
Wing A 2nd Floor Hall	A	Walls		0.1	N
	B	↓ ↓		0.1	N
	D	↓ ↓		0.0	N
	C	Door Frame		0.1	N
Wing A Room 213	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C			0.1	N
	D	↓ ↓		0.1	N
	B	Door Frame		0.2	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing A Room 213 cont.	B	Closet Door	Fair	0.3	N
	B	Closet Shelf	↓	0.0	N
	D	Radiator Cover	↓	0.3	N
Wing A Room 206	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.0	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	↓	0.0	N
	B	Radiator Cover	Fair	0.2	N
	B	Closet Door	↓	0.0	N
	B	Closet Shelf	↓	0.1	N
Wing A Room 201	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.0	N
	D	↓ ↓	↓	0.0	N
	B	Radiator Cover	Fair	0.3	N
	B	Closet Door	↓	0.1	N
	D	Closet Shelf	↓	0.1	N
	D	Door Frame	Intact	0.0	N
Wing A 2 nd Floor Laundry	A	Walls	↓	0.1	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.2	N
	D	↓ ↓	↓	0.2	N
	B	Door Frame	↓	0.1	N
Wing A+B Common Area (2nd FL)	A	Walls	↓	0.0	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	↓	0.0	N
	D	Door	↓	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing B Room 245	A	Walls	Intact	0.2	N
	B	↓ ↓	↓	0.1	N
	C			0.0	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	↓	0.0	N
	B	Radiator Cover	Fair	0.2	N
	B	Closet Door	↓	0.3	N
	B	Closet Shelf	↓	0.0	N
Wing B Room 232	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.2	N
	C		↓	0.1	N
	D	↓ ↓	↓	0.1	N
	D	Radiator Cover	Fair	0.3	N
	D	Closet Shelf	↓	0.0	N
	B	Closet Door	↓	0.3	N
	B	Door Frame	Intact	0.1	N
Wing B Room 228	A	Walls	↓	0.1	N
	B	↓ ↓	↓	0.2	N
	C		↓	0.2	N
	D	↓ ↓	↓	0.0	N
	D	Closet Door	Fair	0.2	N
	D	Closet Shelf	↓	0.1	N
	D	Radiator Cover	↓	0.3	N
	B	Door Frame	Intact	0.0	N
Wing B 2nd Floor Laundry	A	Walls	↓	0.1	N
	B	↓ ↓	↓	0.2	N
	C		↓	0.2	N
	D	Door Frame	↓	0.1	N
Wing B 2nd Floor Hall	B	Walls	↓	0.1	N
	D	↓ ↓	↓	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing D Room 285	D	Door Frame	Intact	0.1	N
	A	Walls	↓	0.2	N
	B	↓	↓	0.1	N
	C	↓	↓	0.2	N
	D	↓	↓	0.2	N
	B	Radiator Cover	Fair	0.0	N
	B	Closet Door	↓	0.1	N
	B	Closet Shelf	↓	0.2	N
Wing D Room 279	A	Walls	Intact	0.1	N
	B	↓	↓	0.0	N
	C	↓	↓	0.0	N
	D	↓	↓	0.0	N
	B	Door Frame	↓	0.0	N
	B	Closet Shelf	Fair	0.1	N
	B	Closet Door	↓	0.1	N
	D	Radiator Cover	↓	0.2	N
Wing D Room 292	A	Walls	Intact	0.1	N
	B	↓	↓	0.0	N
	C	↓	↓	0.1	N
	D	↓	↓	0.1	N
	D	Door Frame	↓	0.0	N
	D	Closet Door	Fair	0.3	N
	D	Closet Shelf	Fair	0.1	N
	B	Radiator Cover	Poor	0.2	N
Wing D 2nd Floor Hall	A	Walls	Intact	0.1	N
	B	↓	↓	0.0	N
	D	↓	↓	0.0	N
	C	Door Frame	↓	0.0	N
Wing D 3rd Floor Hall	B	Walls	↓	0.1	N
	D	↓	↓	0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing D 3rd Floor Hall	A	Door Frame	Intact	0.1	N
	B+D	Door Frames		0.0	N
Wing D 3rd Floor Laundry	C	Walls		0.2	N
	D	↓ ↓		0.1	N
	B	Door Frame		0.0	N
	D	Radiator Cover		0.2	N
Wing D 3rd Floor Men's Bathroom	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.0	N
	D	↓ ↓		0.2	N
	B	Bathroom Stalls	↓	0.1	N
	B	Door Frame	Fair	0.2	N
Wings C+D 3rd Floor Common Area	A	Walls	Intact	0.1	N
	B	↓ ↓		0.0	N
	C	↓ ↓		0.0	N
	D	↓ ↓		0.1	N
	C	Elevator Door	Poor	0.2	N
	B	Radiator Cover	Fair	0.1	N
Wing C 3rd Floor Laundry	A	Walls	Intact	0.1	N
	C	↓ ↓		0.0	N
	D	↓ ↓		0.0	N
	D	Radiator Cover	↓	0.0	N
	B	Door Frame	Poor	0.1	N
Wing C 3rd Floor Men's Bathroom	A	Walls	Intact	0.0	N
	B	↓ ↓		0.2	N
	B	Bathroom Stalls		0.3	N
Wing C 3rd Floor Hall	B	Walls		0.2	N
	D	↓ ↓		0.1	N
	C	Door Frame		0.0	N
	B+D	Door Frames		0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
3rd Floor Lounge	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C			0.1	N
	D	↓ ↓	↓	0.0	N
	C	Radiator Cover	Fair	0.1	N
	-	Support Column	Intact	0.2	N
Wings A & B 3rd Floor Common Area	A	Walls		0.1	N
	B	↓ ↓		0.0	N
	C			0.1	N
	D	↓ ↓		0.1	N
	D	Door Frame		0.1	N
Wing B 3rd Floor Hall	B	Walls		0.0	N
	D	↓ ↓		0.1	N
	A	Door Frame		0.0	N
	B & D	Door Frames		0.0	N
Wing B 3rd Floor Laundry	D	Door Frame		0.0	N
	A	Walls		0.2	N
	B	↓ ↓		0.2	N
	D	↓ ↓		0.1	N
	B	Radiator Cover		0.3	N
Wing D 4th Floor Hall	B	Walls		0.2	N
	D	↓ ↓		0.2	N
	A	Door Frame		0.1	N
	B & D	Door Frames		0.0	N
Wing D 4th Floor Men's Bathroom	A	Walls		0.6	N
	B	↓ ↓		0.1	N
	C			0.0	N
	D	↓ ↓		0.0	N
	B	Bathroom Stall		0.0	N
	B	Door Frame		0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing D 4th Floor Laundry	A	Walls	Intact	0.2	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.2	N
	D	Radiator Cover	↓	0.3	N
	B	Door Frame	Fair	0.2	N
Wing C Room 454	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.2	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	Fair	0.0	N
	B	Closet Door	↓	0.3	N
	B	Closet Shelf	↓	0.2	N
	C	Door Frame	↓	0.0	N
Wing C 4th Floor Hall	B	Walls	Intact	0.0	N
	D	↓ ↓	↓	0.0	N
	B+D	Door Frames	↓	0.1	N
	B	Walls	↓	0.2	N
Wing C 4th Floor Laundry	C	↓ ↓	↓	0.2	N
	D	↓ ↓	↓	0.3	N
	B	Door Frame	Fair	0.0	N
	D	Radiator Cover	↓	0.3	N
	A	Walls	Intact	0.1	N
4th Floor Lounge	B	↓ ↓	↓	0.2	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	A	Radiator Cover	↓	0.3	N
	A	Walls	↓	0.0	N
Wings A+B 4th Floor Common Area	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.0	N
	D	Door Frame	↓	0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing A 4th Floor Hall	B	Walls	Intact	0.2	N
	D	↓ ↓	↓	0.1	N
	B+D	Door Frames		0.0	N
Wing A 4th Floor Laundry	A	Walls		0.6	N
	C	↓ ↓		0.1	N
	B	Radiator Cover		0.2	N
	D	Door Frame		0.0	N
Wing B 4th Floor Hall	B	Walls		0.1	N
	D	↓ ↓	↓	0.1	N
	B+D	Door Frames	Fair	0.0	N
	A	Door Frame	Intact	0.0	N
Wing B 4th Floor Laundry	D	Door Frame	Fair	0.0	N
	B	Walls	Intact	0.2	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.2	N
Stairway 1C	A	Walls	Fair	0.1	N
	B	↓ ↓	↓	0.2	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	-	Tread (Yellow)	Poor	4.5	P
	-	Riser	Poor	0.3	N
	-	Stringer	Fair	7.8	P
	-	Handrail	↓	0.2	N
	-	Support Post	↓	0.1	N
	-	Landing	↓	0.3	N
	C	Door	Poor	0.2	N
	C	Door Frame	Poor	0.1	N
END OF DATA FOR BUILDING 403					

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Building 402 Lobby	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C			0.0	N
	D	↓ ↓	↓	0.1	N
	B	Door	↓	0.2	N
	B	Door Frame	Fair	0.2	N
Wing A 1st Floor Hall	B	Walls	Intact	0.1	N
	D		↓	0.0	N
	B+D	Door Frames		0.0	N
Wing A 1st Floor Laundry	A	Walls	↓	0.1	N
	B		↓	0.0	N
	B	Radiator Cover	Fair	0.3	N
	-	Floor	Poor	0.1	N
Wing B Room 119	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.0	N
	D	↓ ↓		0.0	N
	B	Door Frame		0.2	N
	D	Closet Door	↓	0.1	N
	D	Radiator Cover	Poor	0.4	N
Wing B Room 125	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C			0.0	N
	D	↓ ↓	↓	0.0	N
	D	Door Frame	Fair	0.3	N
	B	Radiator Cover	↓	0.2	N
	B	Closet Door	↓	0.1	N
Wing B Room 126	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing B Room 126 cont.	D	Door Frame	Fair	0.2	N
	D	Closet Door	↓	0.2	N
	B	Radiator Cover	↓	0.3	N
Wing B 1st Floor Hall	A	Door Frame	Intact	0.2	N
	B	Walls	↓	0.0	N
	D	↓ ↓	↓	0.0	N
	C	Radiator Cover	↓	0.3	N
Room 131 CQ office	A	Walls	↓	0.0	N
	B		↓	0.0	N
	C	Door Frame	↓	0.1	N
1st Floor Lounge	A	Walls	↓	0.1	N
	B	↓ ↓	↓	0.0	N
	C		↓	0.1	N
	D	↓ ↓	↓	0.1	N
	A	Radiator Cover	Fair	0.3	N
	-	Support Column	Intact	0.2	N
Wing D 1st Floor Hall	A	Walls	↓	0.0	N
	B	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.0	N
	B+D	Door Frames	Fair	0.2	N
Wing D 1st Floor Laundry	A	Walls	Intact	0.1	N
	C	↓ ↓	↓	0.0	N
	D	Radiator Cover	Fair	0.4	N
	-	Floor	Poor	0.2	N
Wing C+D 1st Floor Common Areas	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.1	N
	A	Door Frame	↓	0.2	N
	C	Door	↓	0.0	N
	C	Vent Cover	↓	0.2	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Wing C 1st Floor Hall	B	Walls	Intact	0.0	N
	D	↓ ↓	↓	0.1	N
	B+D	Door Frames	Fair	0.2	N
Wing C 1st Floor Bathroom	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.0	N
	B	Door Frame	Fair	0.2	N
Room 236	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.0	N
	B	Door Frame	Fair	0.1	N
	D	Radiator Cover	Intact	0.3	N
Room 242	A	Walls	↓	0.0	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.2	N
	D	↓ ↓	↓	0.0	N
	D	Door Frame	Poor	0.3	N
	B	Radiator Cover	Poor	0.3	N
Room 244	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.0	N
	D	Door Frame	Poor	0.2	N
	B	Radiator Cover	Poor	0.4	N
2nd Floor North Hall	B	Walls	Intact	0.0	N
	D	↓ ↓	↓	0.2	N
	B+D	Door Frames	Fair	0.2	N
	A	Radiator Cover	Fair	0.1	N
	-	Ceiling	Intact	0.0	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
2nd Floor Lounge	A	Walls	Intact	0.0	N
	B	↓	↓	0.1	N
	C	↓	↓	0.1	N
	D	↓	↓	0.1	N
	C	Radiator Cover	Poor	0.2	N
	-	Support Column	Intact	0.4	N
2nd Floor South Hall	B	Walls	↓	0.1	N
	D	↓	↓	0.0	N
	B+D	Door Frames	Fair	0.1	N
	C	Radiator Cover	Poor	0.3	N
2nd Floor South Laundry	B	Walls	Intact	0.1	N
	C	↓	↓	0.0	N
	D	↓	↓	0.1	N
	D	Door Frame	Fair	0.2	N
	B	Radiator Cover	↓	0.1	N
3rd Floor South Hall	A	Walls	Intact	0.0	N
	B	↓	↓	0.1	N
	D	↓	↓	0.0	N
	C	Radiator Cover	Fair	0.1	N
	B+D	Door Frames	Fair	0.1	N
3rd Floor South Laundry	B	Walls	Intact	0.0	N
	C	↓	↓	0.0	N
	D	Door Frame	Fair	0.2	N
3rd Floor Lounge	A	Walls	Intact	0.0	N
	B	↓	↓	0.1	N
	C	↓	↓	0.0	N
	D	↓	↓	0.0	N
	A	Radiator Cover	Poor	0.3	N
	-	Support Column	Intact	0.1	N
	C	Elevator Door	Fair	0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
3rd Floor North Hall	A	Radiator Cover	Fair	0.3	N
	B	Walls	Intact	0.0	N
	D	↓ ↓	↓	0.1	N
	B+D	Door Frames	Fair	0.2	N
3rd Floor Room 345	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	Fair	0.3	N
	B	Pipe	Intact	0.3	N
	B	Radiator	Poor	0.2	N
3rd Floor Room 346	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C	↓ ↓	↓	0.0	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	Poor	0.2	N
	B	Radiator Cover	Poor	0.3	N
	D	Pipe	Intact	0.2	N
4th Floor North Hall	A	Radiator Cover	Fair	0.2	N
	B	Walls	Intact	0.1	N
	D	↓ ↓	↓	0.1	N
	B+D	Door Frames	Fair	0.3	N
4th Floor North Laundry	B	Door Frame	Poor	0.1	N
	B	Walls	Intact	0.0	N
	C	↓ ↓	↓	0.1	N
	D	↓ ↓	↓	0.0	N
	-	Ceiling	↓	0.0	N
4th Floor Roof Access Hall	B	Door	Poor	0.2	N
	B	Door Frame	↓	0.3	N
	B	Door Threshold	↓	0.2	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
4th Floor South Hall	A	Walls	Intact	0.1	N
	B	↓ ↓	↓	0.0	N
	C			0.0	N
	D	↓ ↓	↓	0.1	N
	B & D	Door Frames	Fair	0.2	N
4th Floor TOC Office	A	Walls	Intact	0.2	N
	B	↓ ↓	↓	0.1	N
	C			0.0	N
	D	↓ ↓	↓	0.1	N
	D	Door Frame	Fair	0.2	N
4th Floor South Laundry	D	Door Frame	↓	0.3	N
	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.1	N
	B	Radiator Cover	Fair	0.3	N
Rear South Stairway	A	Door	Poor	0.1	N
	A	Door Frame	Poor	0.2	N
	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.0	N
	C			0.0	N
	D	↓ ↓	↓	0.0	N
	-	Tread	Fair	0.2	N
	-	Riser	↓	0.1	N
	-	Stringer	↓	0.4	N
	-	Handrail	↓	0.3	N
	-	Vertical Pipe (Red)	Poor	1.9	P
	C	Radiator Cover	↓	0.3	N
Basement Hall	A	Walls	Intact	0.0	N
	B	↓ ↓	↓	0.1	N
	C			0.1	N

Lead-Based Paint Testing Data Sheet, continued

Room	Wall	Component	Condition	Result	P,N,I
Basement Hall cont.	C	Door	Fair	0.1	2
	C	Door Frame	↓	0.2	2
	C	Pipe	Poor	0.3	2
	C	Elevator Door	Fair	0.1	2
Men's Bathroom	A	Walls	Intact	0.0	2
	B	↓ ↓	↓	0.2	2
	D	Door Frame	Fair	0.2	2
Basement Office	A	Walls	Intact	0.1	2
	B	↓ ↓	↓	0.1	2
	C	↓ ↓	↓	0.1	2
	D	↓ ↓	↓	0.1	2
	B	Door Frame	Poor	0.2	2
	B	Pipe	Intact	0.1	2
	D	Radiator Cover	Poor	0.3	2
	END OF DATA FOR BUILDING 402				

TCLP ANALYTICAL REPORT

STL Pittsburgh

450 William Pitt Way
Pittsburgh, PA 15238

Tel: 412 820 8380 Fax: 412 820 2080
www.stl-inc.com

ANALYTICAL REPORT

Fort Myers

Lot #: C4E260328

Alan Warminski

US Army Corps of Engineers

SEVERN TRENT LABORATORIES, INC.



Veronica Bortot
Project Manager

June 2, 2004

CASE NARRATIVE
US Army Corp of Engineers
Fort Myers
SLT Lot# C4E260328

Sample Receiving:

STL Pittsburgh received one sample on May 26, 2004. The sample was received at ambient temperature.

Metals:

There were no problems associated with the analysis.

METHODS SUMMARY

C4E260328

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 1311/3010

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C4E260328

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
GG5EN	001	TCLP-412-250504	05/25/04	10:00
GG5EX	002	TCLP-402-250504	05/25/04	11:30
GG5E1	003	TCLP-403-250504	05/25/04	13:30

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

US ARMY CORPS OF ENGINEERS - Baltimore

Client Sample ID: TCLP-412-250504

TCLP Metals

Lot-Sample #...: C4E260328-001

Matrix.....: SOLID

Date Sampled...: 05/25/04

Date Received...: 05/26/04

Leach Date.....: 05/28/04

Leach Batch #...: P414903

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
-----------	--------	--------------------	-------	--------	-------------------------------	-----------------

Prep Batch #...: 4153011

Lead 0.013 B

0.50 mg/L

SW846 6010B

06/01/04

GG5EN1AA

Dilution Factor: 1

Analysis Time...: 16:21

MS Run #.....: 4153002

NOTE(S) :

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

US ARMY CORPS OF ENGINEERS - Baltimore

Client Sample ID: TCLP-402-250504

TCLP Metals

Lot-Sample #...: C4E260328-002

Matrix.....: SOLID

Date Sampled...: 05/25/04

Date Received...: 05/26/04

Leach Date.....: 05/28/04

Leach Batch #...: P414903

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4153011						
Lead	ND	0.50	mg/L	SW846 6010B	06/01/04	GG5EX1AA
		Dilution Factor: 1		Analysis Time...: 16:40	MS Run #.....: 4153002	

NOTE(S) :

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

US ARMY CORPS OF ENGINEERS - Baltimore

Client Sample ID: TCLP-403-250504

TCLP Metals

Lot-Sample #...: C4E260328-003

Matrix.....: SOLID

Date Sampled...: 05/25/04

Date Received...: 05/26/04

Leach Date.....: 05/28/04

Leach Batch #...: P414903

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 4153011						
Lead	0.13 B	0.50	mg/L	SW846 6010B	06/01/04	GG5E11AA
		Dilution Factor: 1		Analysis Time...: 16:17	MS Run #.....: 4153002	

NOTE(S) :

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: C4E260328

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: C4E280000-087 Prep Batch #... 4153011						
Leach Date.....: 05/28/04 Leach Batch #... P414903						
Lead	ND	0.50	mg/L	SW846 6010B	06/01/04	GG85F1AA
Dilution Factor: 1						
Analysis Time...: 16:11						

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: C4E260328

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	C4F010000-011	Prep Batch #...	4153011			
Lead	ND	0.50	mg/L	SW846 6010B	06/01/04	GHDC91AA
		Dilution Factor:	1			
		Analysis Time...	16:08			

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: C4E260328

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-----------------------------	----------------------------	---------------	---------------------------------------	---------------------

LCS Lot-Sample#: C4F010000-011 Prep Batch #...: 4153011

Lead	91	(80 - 120)	SW846 6010B	06/01/04	GHDC91AC
		Dilution Factor: 1		Analysis Time...: 16:14	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: C4E260328

Matrix.....: SOLID

Date Sampled...: 05/25/04

Date Received...: 05/26/04

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>				<u>ANALYSIS DATE</u>	<u>ORDER #</u>

MS Lot-Sample #: C4E260328-001 Prep Batch #...: 4153011

Leach Date.....: 05/28/04 Leach Batch #...: P414903

Lead	77	(75 - 125)			SW846 6010B		06/01/04	GG5EN1AC
	78	(75 - 125) 1.2	(0-20)		SW846 6010B		06/01/04	GG5EN1AD

Dilution Factor: 1

Analysis Time...: 16:34

MS Run #.....: 4153002

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

09/2000

Contractor's Name:	_____
Address:	_____
Phone Number:	_____

CONSTRUCTION QUALITY CONTROL REPORT

PROJECT NAME: _____
LOCATION: _____ DATE: _____
CONTRACT NUMBER: _____ REPORT NO.: _____

SUPERINTENDENT: _____			
TYPE OF WORKERS	NUMBER	TYPES OF CONSTRUCTION EQUIPMENT ON SITE	NUMBER
SUBCONTRACTORS			
COMPANY	RESPONSIBILITY	FOREMAN	NO. OF WORKERS
TOTALS			
NO. OF WORKERS TODAY	MANHOURS TODAY	MANHOURS FOR THIS PERIOD	
CONTRACT MATERIALS AND EQUIPMENT DELIVERED TO SITE:			
WEATHER: _____ SITE CONDITIONS: _____			
DID A DELAY OR WORK STOPPAGE OCCUR TODAY? _____ IF YES, EXPLAIN.			
HAS ANYTHING DEVELOPED IN THE WORK WHICH MAY LEAD TO A CHANGE OR FINDING OF FACT? _____ IF YES, EXPLAIN.			

DESCRIPTION OF ALL WORK PERFORMED TODAY
(LIST BY DEFINABLE FEATURES OF WORK)

PREPARATORY INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.
ATTACH MINUTES OF MEETING AND LIST OF ALL ATTENDEES.

HAVE ALL REQUIRED SUBMITTALS AND SAMPLES OF CONSTRUCTION BEEN
APPROVED.

DO THE MATERIALS AND EQUIPMENT TO BE USED CONFORM TO THE SUBMITTALS?

HAS ALL PRELIMINARY WORK BEEN INSPECTED, TESTED, AND COMPLETED?

TEST REQUIRED AND INSPECTION TECHNIQUES TO BE EXECUTED TO PROVE
CONTRACT COMPLIANCE (INCLUDE BOTH EXPECTED AND ACTUAL RESULTS)

HAS A PHASE HAZARD ANALYSIS BEEN PERFORMED?

COMMENTS AND DEFICIENCIES NOTED AND CORRECTIVE ACTIONS TAKEN:

ALL INSTRUCTIONS RECEIVED FROM QA PERSONNEL AND ACTIONS TAKEN:

JOB SAFETY (INCLUDE MEETINGS HELD AND DEFICIENCIES NOTED WITH
CORRECTIVE ACTIONS):

INITIAL INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.
COMMENTS AND/OR DEFICIENCIES NOTED AND CORRECTIVE ACTION TAKEN:

FOLLOW-UP INSPECTION:

LIST ALL INSPECTIONS BY SUBJECT AND SPECIFICATION LOCATION.
COMMENTS AND/OR DEFICIENCIES NOTED AND CORRECTIVE ACTION TAKEN.

SIGNATURE: _____
QUALITY CONTROL REPRESENTATIVE/MANAGER

THE ABOVE REPORT IS COMPLETE AND CORRECT. ALL MATERIALS AND
EQUIPMENT USED AND ALL WORK PERFORMED DURING THIS REPORTING PERIOD
ARE IN COMPLIANCE WITH THE CONTRACT SPECIFICATIONS, AND SUBMITTALS,
EXCEPT AS NOTED ABOVE.

SIGNATURE: _____
CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION						CONTRACTOR											
Hazardous Materials Abatement, Bldgs 402, 403 & 412, Ft Myer, VA																	
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REFERENCE REVIEW NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01010	SD-01 Preconstruction Submittals														
			Progress Schedule	1.1.1	G AR												
			Title Evidence	1.1.2													
			Photographs	1.1.5													
			Shut Down Utility Services	1.2.3.2	G AR												
			Hot-Work Permit	1.2.6													
			Site Plan	1.7.4	G AR												
			Safety Supervisor	1.3.3													
			Activity Phase Hazard Analysis	1.3.3	G AR												
			Plan														
			OSHA Log	1.3.4.2													
			Submittal Register	1.5.6	G AR												
			Diskette	1.5.6	G AR												
			Contractor Quality Control (CQC)	1.4.3.1	G AR												
			Plan														
			Outline Report	1.3.3	G AR												
			Language Certificate	1.3.3	G AR												
			Erosion and Sedimentation	1.6.4	G AR												
			Control Plan														
			SD-02 Shop Drawings														
			Site Plan	1.7.4	G AR												
		13280A	SD-02 Shop Drawings														
			Detailed Drawings	1.4	G ED												
			SD-03 Product Data														
			Asbestos Waste Shipment	3.11.5.1	G ED												
			Records														

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

Hazardous Materials Abatement, Bldgs 402, 403 & 412, Ft Myer, VA

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REFERENCE NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		13280A	Weight Bills and Delivery Tickets	3.11.4	G ED												
			Encapsulants	2.1	G ED												
			Respiratory Protection Program	1.12	G ED												
			Cleanup and Disposal	3.11	G ED												
			Qualifications	1.5	G ED												
			Training Program	1.11													
			Licenses, Permits and Notifications	1.13	G ED												
			SD-06 Test Reports														
			Exposure Assessment and Air Monitoring	3.9	G ED												
			Local Exhaust System	1.19													
			SD-07 Certificates														
			Local Exhaust System	1.19													
			Encapsulants	2.1	G ED												
			Medical Surveillance	1.10													
			Requirements														
		13284N	SD-07 Certificates														
			Training certification	1.7.1													
			Qualifications of CIH	1.7.2													
			PCB removal work plan	1.7.3													
			PCB disposal plan	1.7.4													
			Notification	1.7.5													
			Transporter certification	3.8													
			Certification of Decontamination	3.5.4													
			Post cleanup sampling	3.5.5													

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <small>(Read instructions on the reverse side prior to initiating this form)</small>						DATE		TRANSMITTAL NO.			
SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS <small>(This section will be initiated by the contractor)</small>											
TO:			FROM:			CONTRACT NO.		CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____			
SPECIFICATION SEC. NO. <small>(Cover only one section with each transmittal)</small>			PROJECT TITLE AND LOCATION								
ITEM NO.	DESCRIPTION OF ITEM SUBMITTED <small>(Type size, model number/etc.)</small>	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. <small>(See instruction no. 8)</small>	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION <small>(See Instruction No. 6)</small>	FOR CE USE CODE			
a.	b.	c.	d.	SPEC. PARA. NO.	DRAWING SHEET NO.	f.	g.	h.	i.		
REMARKS			I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.								
NAME AND SIGNATURE OF CONTRACTOR											
SECTION II - APPROVAL ACTION											
ENCLOSURES RETURNED <small>(List by Item No.)</small>			NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY			DATE					
ENG FORM 4025, May 91 <small>(ER 415-1-10)</small>			EDITION OF AUG 89 IS OBSOLETE.			SHEET ____ OF ____ <small>(Proponent: CEMP-CE)</small>					

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288 for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A	--	Approved as submitted.	E	--	Disapproved (See attached).
B	--	Approved, except as noted on drawings.	F	--	Receipt acknowledged.
C	--	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX	--	Receipt acknowledged, does not comply as noted with contract requirements.
D	--	Will be returned by separate correspondence.	G	--	Other (Specify)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

SECTION 01011

DESCRIPTION OF WORK

1.1 ASBESTOS CONTAINING MATERIAL (ACM)

1.1.1 The asbestos abatement work includes the demolition and removal of the following asbestos containing materials (ACM's)

1.1.1.2 Building 402

- 1) Material: 9X9 White and tan floor tile
Location: Basement, 1st, 2nd, 3rd, and 4th Floors.

Approximate Quantity: 3,100 Square Feet

% Asbestos: 4-6% Chrysotile

- 2) Material: Thermal System Pipe and Fitting Insulation
Location: Basement Boiler Room, Basement Hallways, 1st, 2nd, 3rd, and 4th Floors Hallways.

Approximate Quantity: 780 Linear Feet

% Asbestos: 4% Chrysotile and 2% Amosite

- 3) Material: Boiler Insulation
Location: Basement Boiler Room.

Approximate Quantity: 400 Square Feet

% Asbestos: Labeled as ACM

- 4) Material: Tank Insulation
Location: Basement Boiler Room.

Approximate Quantity: 1,000 Square Feet

% Asbestos: Labeled as ACM

1.1.1.3 Building 403

- 1) Material: 9X9 White and tan floor tile
Location: Basement, 1st, 2nd, 3rd, and 4th Floors.

Approximate Quantity: 5,000 Square Feet

% Asbestos: 5% Chrysotile

- 2) Material: 12X12 Black and White floor tile
Location: Elevator

Approximate Quantity: 40 Square Feet
% Asbestos: 1% Chrysotile

- 3) Material: Thermal System Pipe and Fitting Insulation
Location: Room 121 and Room Opposite it

Approximate Quantity: 70 Linear Feet
% Asbestos: 12% Chrysotile

- 4) Material: Thermal System Pipe and Fitting Insulation
Location: Boiler Room in the Penthouse, Mechanical Room in the Basement

Approximate Quantity: 1,450 Linear Feet
% Asbestos: Labeled as ACM

- 5) Material: Tank Insulation
Location: Boiler Room in the Penthouse

Approximate Quantity: 500 Square Feet
% Asbestos: Labeled as ACM

Notes: 1) Asbestos Containing Mastic will be left in place and Demolished with the Building. Concrete floors where Asbestos Containing Mastic is left in place will not be recycled.

2) The actual total quantities of Asbestos Containing Materials (ACM) present may be greater than those observed during the survey period due to limited access and or obstructed views above ceiling plenum areas, behind walls, etc. ACM including, but not limited to thermal pipe insulation and thermal pipe fitting insulation may exist in those locations and discovered during demolition activities.

3) No Asbestos Containing Materials were found in Building 412.

1.1.2 PCB CONTAINING BALLAST, FLORESCENT LIGHT FIXTURES AND PCB TRANSFORMERS

1.1.2.1.1 Building 402

Approximate Quantity PCB Ballast: 300
Approximate Quantity Florescent Light Fixtures: 600
500 KVA Transformer (99 Gallons of >50% PCB dielectric fluid, located Basement Mechanical Room)

One (1) 500 KVA transformer containing 99 gallons of greater than (>)50% PCB dielectric fluid in the Basement Mechanical Room

1.1.2.1.2 Building 403

Approximate Quantity PCB Ballast: 600

Approximate Quantity Florescent Light Fixtures: 1,400

300 KVA Transformer (125 Gallons of >50% PCB dielectric fluid, located Penthouse Mechanical Room)

One (1) 300 KVA transformer containing 125 gallons of greater than (>)50% PCB dielectric fluid in the Penthouse Mechanical Room

1.1.2.1.3 Building 412

Approximate Quantity PCB Ballast: 10

Approximate Quantity Florescent Light Fixtures: 50

1.1.3 Smoke Detectors

The smoke detectors below shall be recycled.

210 Smoke Detectors in Building 402

374 Smoke Detectors in Building 403

1 Smoke Detector in Building 412

Package and ship items marked specifically for recycle (except for gaseous tritium other than exit signs) directly to Wright-Patterson Air Force Base (WPAFB). Before shipping to the WPAFB, the Contractor must obtain a control number from Ms. Sharyll O'Neal, (309) 782-2068. The shipping address and point of contact (POC) are as follows:

Wright-Patterson Air Force Base
88 ABW/EMO Building 30089
RAM Recovery and Recycling Program
Attention: Mr. Mark Mays
5490 Pearson Road
WPAFB, OH 45433
Telephone: (937) 257-2010
Facsimile: (937) 656-1534
POC: Mr. Mark Mays

END

SECTION 13280A

ASBESTOS HAZARD CONTROL ACTIVITIES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- | | |
|------------|---|
| ANSI Z87.1 | (2003) Practice for Occupational and Educational Eye and Face Protection |
| ANSI Z88.2 | (1992) Respiratory Protection |
| ANSI Z9.2 | (2001) Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems |

ASTM INTERNATIONAL (ASTM)

- | | |
|-------------|--|
| ASTM D 1331 | (1989; R 2001) Surface and Interfacial Tension of Solutions of Surface-Active Agents |
| ASTM D 4397 | (2002) Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications |
| ASTM E 1368 | (2002) Visual Inspection of Asbestos Abatement Projects |

COMPRESSED GAS ASSOCIATION (CGA)

- | | |
|---------|---|
| CGA G-7 | (2003) Compressed Air for Human Respiration |
|---------|---|

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- | | |
|----------|---|
| NFPA 701 | (1999) Fire Tests for Flame Propagation of Textiles and Films |
|----------|---|

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

- | | |
|--------------|---|
| NIOSH 94-113 | (1994; 4th Ed) NIOSH Manual of Analytical Methods |
|--------------|---|

STATE OF VIRGINIA ADMINISTRATION (VAC)

- | | |
|-----------------|------------------------------|
| 16 VAC 25-20-30 | Notification and Permit Fee |
| 18 VAC 15-20-10 | Virginia Asbestos Regulation |

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety -- Safety and Health Requirements

EP 1110-1-11 Asbestos Abatement Guideline Detail Sheets

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90/018 (1990) Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.134 Respiratory Protection

29 CFR 1910.141 Sanitation

29 CFR 1910.147 Control of Hazardous Energy (Lock Out/Tag Out)

29 CFR 1926.1101 Asbestos

29 CFR 1926.32 Safety and Health Regulations for Construction - Definition

40 CFR 61 National Emission Standards for Hazardous Air Pollutants

40 CFR 763 Asbestos

42 CFR 84 Approval of Respiratory Protective Devices

49 CFR 107 Hazardous Materials Program Procedures

49 CFR 171 General Information, Regulations, and Definitions

49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

49 CFR 173 Shippers - General Requirements for Shipments and Packagings

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996; Rev thru Apr 2000) High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

- a. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.
- b. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

- c. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.
- d. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, has EPA/State certification/license as a "Building Inspector".
- e. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.
- f. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos - containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.
- g. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.
- h. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.
- i. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.
- j. Competent Person: In addition to the definition in 29 CFR 1926.32 (f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926.1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; has EPA/State certification/license as a "Contractor/Supervisor".
- k. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; has EPA/State certification as a "Contractor/Supervisor".
- l. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a

regulated area from migrating to an adjacent area.

- m. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.
- n. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.
- o. Disposal Bag: A 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926.1101, used for transporting asbestos waste from containment to disposal site.
- p. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 60 inches in length and width in order to access a building component.
- q. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.
- r. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.
- s. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90/018 meaning any material which contains more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
- t. Glovebag: Not more than a 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.
- u. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.
- v. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.
- w. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763.
- x. Negative Initial Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

- y. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.
- z. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90/018 meaning any material containing more than 1 percent asbestos that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.
- aa. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90/018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos.
- bb. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90/018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos.
- cc. Permissible Exposure Limits (PELs):
 - (1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA).
 - (2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes.
- dd. Regulated Area: An OSHA term defined in 29 CFR 1926.1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.
- ee. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.
- ff. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates.
- gg. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.
- hh. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.
- ii. Transite: A generic name for asbestos cement wallboard and pipe.
- jj. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos

worker training required by 29 CFR 1926.1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Part 1.5 SUBMITTALS in Section 01010 SPECIAL CLAUSES:

SD-02 Shop Drawings

Detailed Drawings; G ED

Descriptions, detailed drawings, and site layout to include worksite containment area(s), local exhaust systems locations, decontamination units and load-out units, other temporary waste storage facility, access tunnels, location of temporary utilities (electrical, water, sewer) and boundaries of each regulated area.

SD-03 Product Data

Asbestos Waste Shipment Records; G ED
Weight Bills and Delivery Tickets; G ED

Waste shipment records, weight bills and delivery tickets.

Encapsulants; G ED
Respiratory Protection Program; G ED
Cleanup and Disposal; G ED

Manufacturer's catalog data for all materials and equipment to be used, including brand name, model, capacity, performance characteristics and any other pertinent information. Test results and certificates from the manufacturer of encapsulants substantiating compliance with performance requirements of this specification. Material Safety Data Sheets for all chemicals to be used onsite in the same format as implemented in the Contractor's HAZARD COMMUNICATION PROGRAM. Data shall include, but shall not be limited to, the following items:

- a. High Efficiency Filtered Air (HEPA) local exhaust equipment
- b. Vacuum cleaning equipment
- c. Pressure differential monitor for HEPA local exhaust equipment
- d. Air monitoring equipment
- e. Respirators
- f. Personal protective clothing and equipment
- g. Glovebags. Written manufacturer's proof that glovebags will

not break down under expected temperatures and conditions.

- h. Duct Tape
- i. Disposal Containers
- j. Sheet Plastic
- k. Wetting Agent
- l. Strippable Coating
- m. Prefabricated Decontamination Unit
- n. Material Safety Data Sheets (for all chemicals proposed)

Qualifications; G ED

A written report providing evidence of qualifications for personnel, facilities and equipment assigned to the work.

Training Program

A copy of the written project site-specific training material as indicated in 29 CFR 1926.1101 that will be used to train onsite employees.

Licenses, Permits and Notifications; G ED

Licenses, permits, and notifications.

SD-06 Test Reports

Exposure Assessment and Air Monitoring; G ED

Initial exposure assessments, negative exposure assessments, air-monitoring results and documentation.

Local Exhaust System

Pressure differential recordings.

SD-07 Certificates

Local Exhaust System

Manufacturer's certifications showing compliance with ANSI Z9.2 for:

- a. Vacuums.
- b. Water filtration equipment.
- c. Ventilation equipment.
- d. Other equipment required to contain airborne asbestos fibers.

Encapsulants; G ED

Certificates stating that encapsulants meet the applicable specified performance requirements.

Medical Surveillance Requirements

Required medical certification and the Physician's written opinion.

1.4 DESCRIPTION OF WORK

Areas behind wall surfaces and above some ceiling plenum areas were inaccessible and could not be visually surveyed for ACM. ACM including, but not limited to, thermal pipe insulation and thermal pipe fitting insulation may exist in those locations. Quantities of ACM's may be discovered during renovation/demolition activities.

THE CONTRACTOR MUST UNDERSTAND THAT IF SUSPECT ASBESTOS CONTAINING MATERIALS (ACM'S) ARE IDENTIFIED DURING RENOVATION/DEMOLITION ACTIVITIES, THE SUSPECT ACM'S MUST BE TESTED FOR ACM PRIOR TO REMOVAL AND DISPOSAL. SUSPECT ACM DETERMINED TO BE ACM MUST FIRST BE SURVEYED BY THE OWNER OR THE OWNER'S FIELD REPRESENTATIVE AND MAY RESULT IN A CHANGE ORDER TO THE SCOPE OF WORK FOR THIS PROJECT. THE CONTRACTOR FURTHER UNDERSTANDS THAT ASBESTOS CONTAINING MATERIALS (ACM'S) IDENTIFIED THROUGH RENOVATION/DEMOLITION ACTIVITIES AND PROPER ANALYTICAL TESTING MUST BE REMOVED AND DISPOSED OF ACCORDING TO ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. FURTHERMORE, THE CONTRACTOR MUST ADHERE TO THE REQUIREMENTS AND CONDITIONS SET FORTH IN THIS SPECIFICATION.

The work covered by this section includes the removal of asbestos-containing materials (ACM) which are encountered during demolition and/or renovation activities associated with this project and describes procedures and equipment required to protect workers and occupants of the regulated area from contact with airborne asbestos fibers and ACM dust and debris. Activities include OSHA Class I and Class II work operations involving ACM. The work also includes containment, storage, transportation and disposal of the generated ACM wastes. More specific operational procedures shall be detailed in the required Accident Prevention Plan and its subcomponents, the Asbestos Hazard Abatement Plan and Activity Hazard Analyses required in paragraph SAFETY AND HEALTH PROGRAM AND PLANS.

Reference the hazardous materials survey report for further information.

This section covers all operations in which asbestos-containing materials (ACM) are encountered. These procedures and equipment are required to protect workers and building occupants from airborne asbestos fibers and ACM dust and debris. Activities include OSHA Class I, Class II and Class III work operations. This section also includes containment, storage, transportation and disposal of the generated ACM wastes. The Contractor shall submit Detailed Drawings in accordance with EP 1110-1-11 and as specified in the Submittals paragraph. When the detail sheets are not attached to this specification, the Contractor can get them from the web at:
<http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1110-1-11/entire.pdf>.

1.4.1 Abatement Work Tasks

The specific ACM to be abated is identified on the detailed plans and project drawings and Table 1. A summary for each work task including the appropriate RESPONSE ACTION DETAIL SHEET (item to be abated and methods to

be used) and SET-UP DETAIL SHEETS (containment techniques to include safety precautions and methods) is included in Table 1, "Individual Work Task Data Elements" at the end of this section.

1.4.2 Unexpected Discovery of Asbestos

For any previously untested building components suspected to contain asbestos and located in areas impacted by the work, the Contractor shall notify the Contracting Officer (CO) who will have the option of ordering up to 15 bulk samples to be obtained at the Contractor's expense and delivered to a laboratory accredited under the National Institute of Standards and Technology (NIST) "National Voluntary Laboratory Accreditation Program (NVLAP)" and analyzed by PLM. If the asbestos content is less than 10 percent, as determined by a method other than point counting, the asbestos content shall be verified by point counting. Any additional components identified as ACM that have been approved by the CO for removal shall be removed by the Contractor and will be paid for by an equitable adjustment to the contract price under the CONTRACT CLAUSE titled "changes". Sampling shall be conducted by personnel who have successfully completed the EPA Model Accreditation Plan (MAP) "Building Inspector" training course and is EPA/State certified/licensed as a "Building Inspector".

1.4.3 Wallboard/Joint Compound

Both composite samples of the wallboard and discrete samples of the components (wallboard and joint compound) have been tested. Composite samples of the wallboard system were tested and found to contain less than one percent asbestos. Discrete samples of the wallboard were tested and found to contain less than one percent asbestos.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; Designated IH; independent testing laboratory; all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, Designated IH, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926.1101, 40 CFR 61, Subpart M, and the federal, state and local requirements for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

1.5.2.1 Asbestos Abatement Contractor

The Contractor shall be certified/licensed by applicable state agencies to perform asbestos-related activities.

1.5.2.2 Designated Competent Person

Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926.32 and 29 CFR 1926.1101, has EPA MAP "Contractor/Supervisor" training accreditation, has EPA/State certification/license as a "Contractor/Supervisor" and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan (APP) and Asbestos Hazard Abatement Plan (AHAP). The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training, EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

1.5.2.3 Project and Other Supervisors

Evidence that the Project Supervisor and other supervisors have EPA MAP "Contractor/Supervisor" training accreditation. The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training, EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

1.5.2.4 Designated Industrial Hygienist

The Contractor shall provide the resume for the Industrial Hygienist (IH) selected to prepare the Contractor's AHAP, prepare and perform training, direct air monitoring and assist the Contractor's Competent Person in implementing and ensuring that safety and health requirements are complied with during the performance of all required work. The Designated IH shall be a person who is board certified in the practice of industrial hygiene or board eligible (meets all education and experience requirements) as determined and documented by the American Board of Industrial Hygiene (ABIH), has EPA MAP "Contractor/Supervisor" training accreditation, has EPA/State certification/license, and has a minimum of 2 years of comprehensive experience in planning and overseeing asbestos abatement activities. The Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required

refresher training and EPA/State certification/license with the employee "Certificate of Worker Acknowledgment". The Designated IH shall be completely independent from the Contractor according to federal, state, or local regulations; that is, shall not be a Contractor's employee or be an employee or principal of a firm in a business relationship with the Contractor negating such independent status. A copy of the Designated IH's current valid ABIH certification or confirmation of eligibility in writing from the ABIH shall be included. The Designated IH shall visit the site at least 2 per week for the duration of asbestos activities and shall be available for emergencies. In addition, the Contractor shall submit resumes of additional IH's and industrial hygiene technicians (IHT) who will be assisting the Designated IH in performing onsite tasks. IHs and IHTs supporting the Designated IH shall have a minimum of 2 years of practical onsite asbestos abatement experience. The formal reporting relationship between the Designated IH and the support IHs and IHTs, the Designated Competent Person, and the Contractor shall be indicated.

1.5.2.5 Asbestos Abatement Workers

Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926.1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment".

1.5.2.6 Worker Training and Certification of Worker Acknowledgment

Training documentation is required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

1.5.2.7 Physician

The Contractor shall provide the resume of the physician who will or has performed the medical examinations and evaluations of the persons who will conduct the asbestos abatement work tasks. The physician shall be currently licensed by the state where the workers will be or have been examined, have expertise in pneumoconiosis and shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1926.1101. The physician shall be familiar with the site's hazards and the scope of this project.

1.5.2.8 Independent Testing Laboratory

The Contractor shall identify the independent testing laboratory selected to perform the sample analyses and report the results. The testing laboratory shall be completely independent from the Contractor as recognized by federal, state or local regulations. Written verification of the following criteria, signed by the testing laboratory principal and the Contractor, shall be submitted:

- (1) Phase contrast microscopy (PCM): The laboratory is fully equipped and proficient in conducting PCM of airborne samples using the methods specified by 29 CFR 1926.1101, OSHA method

ID-160, the most current version of NIOSH 94-113 Method 7400. The laboratory shall be currently judged proficient (classified as acceptable) in counting airborne asbestos samples by PCM by successful participation in each of the last 4 rounds in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) Program or by participating in the AIHA PAT Program, and being judged proficient in counting samples.

(2) Polarized light microscopy (PLM): The laboratory is fully equipped and proficient in conducting PLM analyses of suspect ACM bulk samples in accordance with 40 CFR 763, Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for bulk asbestos analysis and will use analysts with demonstrated proficiency to conduct PLM analyses.

(3) Transmission electron microscopy (TEM): The laboratory is fully equipped and proficient in conducting TEM analysis of airborne samples using the mandatory method specified by 40 CFR 763, Subpart E, Appendix E; the laboratory is currently accredited by NIST under the NVLAP for airborne sample analysis of asbestos by TEM; the laboratory will use analysts with demonstrated proficiency under NVLAP. proficient in conducting analysis for low asbestos concentration, enhanced analysis of floor tiles and bulk materials where multiple layers are present, using an improved EPA test method titled, "Method for the Determination of Asbestos in Bulk Building Materials".

(4) PCM/TEM: The laboratory is fully equipped and each analyst is proficient in conducting PCM and TEM analysis of airborne samples using NIOSH 94-113 Method 7400 PCM and NIOSH 94-113 Method 7402 (TEM confirmation of asbestos content of PCM results) from the same filter.

1.5.2.9 Disposal Facility, Transporter

The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA and state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste shall be provided. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61 150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 REGULATORY REQUIREMENTS

In addition to detailed requirements of this specification, work performed under this contract shall comply with EM 385-1-1, applicable federal, state, and local laws, ordinances, criteria, rules and regulations regarding handling, storing, transporting, and disposing of asbestos waste materials. Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply. The following state and local laws, rules and regulations regarding demolition, removal, encapsulation, construction alteration, repair, maintenance, renovation, spill/emergency cleanup, housekeeping, handling, storing, transporting and disposing of asbestos material apply: 29 CFR 1926.1101, 40 CFR 61, subpart M, 40 CFR 763, 16 VAC 25-20-30 and 18 VAC 15-20-10.

1.7 SAFETY AND HEALTH PROGRAM AND PLANS

The Contractor shall prepare a written comprehensive site-specific Accident Prevention Plan (APP) at least 30 days prior to the preconstruction conference. The APP shall be in accordance with the format and requirements in Appendix A of EM 385-1-1. The APP shall incorporate an Asbestos Hazard Abatement Plan (AHAP), and Activity Hazard Analyses (AHAs) as separate appendices into one site-specific document. The APP shall take into consideration all the individual asbestos abatement work tasks identified in Table 1. See Section 01525 SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS for additional requirements.

1.7.1 Asbestos Hazard Abatement Plan Appendix

The AHAP shall include, but not be limited to, the following:

- a. The personal protective equipment to be used;
- b. The location and description of regulated areas including clean and dirty areas, access tunnels, and decontamination unit (clean room, shower room, equipment room, storage areas such as load-out unit);
- c. Initial exposure assessment in accordance with 29 CFR 1926.1101;
- d. Level of supervision;
- e. Method of notification of other employers at the worksite;
- f. Abatement method to include containment and control procedures;
- g. Interface of trades;
- h. Sequencing of asbestos related work;
- i. Storage and disposal procedures and plan;
- j. Type of wetting agent and asbestos encapsulant;
- k. Location of local exhaust equipment;

- l. Air monitoring methods (personal, environmental and clearance);
- m. Bulk sampling and analytical methods (if required);
- n. A detailed description of the method to be employed in order to control the spread of ACM wastes and airborne fiber;
- o. Fire and medical emergency response procedures;
- p. The security procedures to be used for all regulated areas.

1.7.2 Activity Hazard Analyses Appendix

AHAs for each major phase of work, shall be submitted and updated during the project. The AHAs format shall be in accordance with EM 385-1-1, Figure 1-1. The analysis shall define the activities to be performed for a major phase of work, identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the AHA has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the onsite Government representatives. The AHAs shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations.

1.8 PRECONSTRUCTION CONFERENCE

The Contractor and the Contractor's Designated Competent Person, Project Supervisor, and Designated IH shall meet with the Contracting Officer (CO) prior to beginning work at a safety preconstruction conference to discuss the details of the Contractor's submitted Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses appendices. Deficiencies in the Accident Prevention Plan will be discussed and the Accident Prevention Plan shall be revised to correct the deficiencies and resubmitted for acceptance. Any changes required in the specification as a result of the Accident Prevention Plan shall be identified specifically in the plan to allow for free discussion and acceptance by the Contracting Officer, prior to the start of work. Onsite work shall not begin until the Accident Prevention Plan has been accepted. A copy of the written Accident Prevention Plan shall be maintained onsite. Changes and modifications to the accepted Accident Prevention Plan shall be made with the knowledge and concurrence of the Designated IH, the Project Supervisor, Designated Competent Person, and the Contracting Officer. Should any unforeseen hazard become evident during the performance of the work, the Designated IH shall bring such hazard to the attention of the Project Supervisor, Designated Competent Person, and the Contracting Officer, both verbally and in writing, for resolution as soon as possible. In the interim, all necessary action shall be taken by the Contractor to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Once accepted by the Contracting Officer, the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses will be enforced as if an addition to the contract. Disregarding the provisions of this contract or the accepted Accident Prevention Plan will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

1.9 SECURITY

Fenced and locked security area shall be provided for each regulated area. A log book shall be kept documenting entry into and out of the regulated area. Entry into regulated areas shall only be by personnel authorized by the Contractor and the CO. Personnel authorized to enter regulated areas shall be trained, medically evaluated, and wear the required personal protective equipment.

1.10 MEDICAL SURVEILLANCE REQUIREMENTS

Medical surveillance requirements shall conform to 29 CFR 1926.1101. Asbestos workers shall be enrolled in a medical surveillance program that meets 29 CFR 1926.1101 (m) requirements and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months.

1.11 TRAINING PROGRAM

The Contractor shall establish a training program as specified by EPA MAP, training requirements at 40 CFR 763, the applicable Commonwealth of Virginia regulatory training requirements, OSHA requirements at 29 CFR 1926.1101 (k)(9). Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented and provided to the CO as specified in paragraph QUALIFICATIONS.

Prior to commencement of work the Contractor's Designated IH and Competent Person shall instruct each worker about:

- a. The hazards and health effects of the specific types of ACM to be abated; and
- b. The content and requirements of the Contractor's APP to include the AHAP and AHAS and site-specific safety and health precautions.

1.12 RESPIRATORY PROTECTION PROGRAM

The Contractor's Designated IH shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926.1101, 29 CFR 1910.134, and ANSI Z88.2. The Contractor's Designated IH shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations.

1.12.1 Respiratory Fit Testing

The Contractor's Designated IH shall conduct a qualitative or quantitative fit test conforming to Appendix A of 29 CFR 1910.134 for each worker required to wear a respirator, and any authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed prior to initially wearing a respirator and every 12 months thereafter. If physical changes develop that will affect the fit, a new fit test shall be performed. Functional fit checks shall be performed each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.12.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as

required by 29 CFR 1926.1101 and in accordance with CGA G-7 and the manufacturer's recommendations. Respirators shall be approved by the National Institute for Occupational Safety and Health NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. For air-purifying respirators, the particulate filter shall be high-efficiency particulate air (HEPA)/(N-,R-,P-100). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Contractor's Designated IH based on the measured or anticipated airborne asbestos fiber concentrations to be encountered.

1.13 LICENSES, PERMITS AND NOTIFICATIONS

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall inform the Government and will notify the USEPA Region III Office, the Commonwealth of Virginia Department of Environmental Quality, and the Contracting Officer in writing, at least 10 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. Notification shall be by Certified Mail, Return Receipt Requested. The Contractor shall furnish copies of the receipts to the Contracting Officer, in writing, prior to the commencement of work. Local fire department shall be notified 3 days before fire-proofing material is removed from a building and the notice shall specify whether or not the material contains asbestos. A copy of the rental company's written acknowledgment and agreement shall be provided as required by paragraph RENTAL EQUIPMENT. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.14 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the CO and authorized visitors for entry to the regulated area. The CO and authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Contractor's Designated IH and Designated Competent Person shall select and approve all the required personal protective clothing and equipment.

1.14.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.14.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Contractor's Designated IH and Competent Person shall select and approve the whole body

protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926.1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. Recommendations made by the Contractor's Designated IH to downgrade whole body protection shall be submitted in writing to the Contracting Officer. The Contractor's Designated Competent Person, in consultation with the Designated IH, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.14.2.1 Coveralls

Disposable-impermeable or disposable-breathable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles. See DETAIL SHEET 13.

1.14.2.2 Gloves

Gloves shall be provided to protect the hands where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.).

1.14.2.3 Foot Coverings

Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA and EM 385-1-1, that is appropriate for safety and health hazards in the area shall be worn. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste.

1.14.2.4 Head Covering

Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.14.2.5 Protective Eye Wear

Eye protection shall be provided, when operations present a potential eye injury hazard, and shall meet the requirements of ANSI Z87.1.

1.15 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.15.1 3-Stage Decontamination Area

A temporary negative pressure decontamination unit that is adjacent and

attached in a leak-tight manner to the regulated area shall be provided as described in SET-UP DETAIL SHEET Numbers 22 and 23. The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910.141, unless the Contractor can demonstrate that such facilities are not feasible. Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. The Contractor shall provide a minimum of 2 showers. Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection and when permission is obtained from the Contracting Officer or the Government. Should sufficient hot water be unavailable, the Contractor shall provide a minimum 40 gal. electric water heater with minimum recovery rate of 20 gal. per hour and a temperature controller for each showerhead. The Contractor shall provide a minimum of 2 showers. Instantaneous type in-line water heater may be incorporated at each shower head in lieu of hot water heater, upon approval by the Contracting Officer. Flow and temperature controls shall be located within the shower and shall be adjustable by the user. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 25 gpm flow with 35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated material, per DETAIL SHEETS 9 and 14. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926.1101..

1.15.2 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area and access tunnel shall be provided as described in DETAIL SHEET Number 20 and 25. Utilization of prefabricated units shall have prior approval of the Contracting Officer. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.15.3 Single Stage Decontamination Area

A decontamination area (equipment room/area) shall be provided for Class I work involving less than 25 feet or 10 square feet of TSI or surfacing ACM, and for Class II and Class III asbestos work operations where exposures exceed the PELs or where there is no negative exposure assessment. The equipment room or area shall be adjacent to the regulated area for the decontamination of employees, material, and their equipment which could be contaminated with asbestos. The area shall be covered by an impermeable drop cloth on the floor or horizontal working surface. The area must be of sufficient size to accommodate cleaning of equipment and removing personal protective equipment without spreading contamination

beyond the area.

1.15.4 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

- a. Before leaving the regulated area, remove all gross contamination and debris from work clothing using a HEPA vacuum.
- b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers (see Detail Sheets 9A and 14) for disposal and/or laundering.
- c. Employees shall not remove their respirators until showering.
- d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.

1.15.5 Smoking

Smoking, if allowed by the Contractor, shall only be permitted in designated areas approved by the CO.

1.16 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.17 WARNING SIGNS AND TAPE

Warning signs and tape printed bilingually in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, as shown and described in DETAIL SHEET 11, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

See DETAIL SHEET 11 and DETAIL SHEET 15.

Decontamination unit signage shall be as shown and described on DETAILED SHEET 15.

1.18 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers, asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. See DETAIL SHEET 14,

1.19 LOCAL EXHAUST SYSTEM

Local exhaust units shall conform to ANSI Z9.2 and 29 CFR 1926.1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.20 TOOLS

Vacuums shall be equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.21 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment.

1.22 AIR MONITORING EQUIPMENT

The Contractor's Designated IH shall approve air monitoring equipment. The equipment shall include, but shall not be limited to:

- a. High-volume sampling pumps that can be calibrated and operated at a constant airflow up to 16 liters per minute.
- b. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
- c. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands for personal air sampling.
- d. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands when conducting environmental area sampling using NIOSH

94-113 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).

- e. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
- f. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.23 EXPENDABLE SUPPLIES

1.23.1 Glovebag

Glovebags shall be provided as described in 29 CFR 1926.1101 and SET-UP DETAIL SHEET 10. The glovebag assembly shall be 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.23.2 Duct Tape

Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container.

1.23.3 Disposal Containers

Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926.1101 and DETAIL SHEETS 9A, 9B, 9C and 14. Disposal containers can be in the form of:

- a. Disposal Bags
- b. Fiberboard Drums
- c. Cardboard Boxes

1.23.4 Sheet Plastic

Sheet plastic shall be polyethylene of 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams, as indicated on the project drawings. Film shall be clear and conform to ASTM D 4397, except as specified below:

1.23.4.1 Flame Resistant

Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.23.4.2 Reinforced

Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.23.5 Leak-tight Wrapping

Two layers of 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags as described in DETAIL SHEET 9B. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.23.6 Viewing Inspection Window

Where feasible, a minimum of 1 clear, 1/8 inch thick, acrylic sheet, 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.23.7 Wetting Agents

Amended water shall meet the requirements of ASTM D 1331. Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.23.8 Strippable Coating

Strippable coating in aerosol cans shall be used to adhere to surfaces and to be removed cleanly by stripping, at the completion of work.

1.23.9 Miscellaneous Items

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent.

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol

Life Expectancy, 20 yrs	ASTM C 732
Accelerated Aging Test	
Permeability, Minimum	ASTM E 96
0.4 perms	

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736
50 pounds of force/foot	
Fire Resistance, Negligible	ASTM E 119
affect on fire resistance	
rating over 3 hour test (Classified	
by UL for use over fibrous and	
cementitious sprayed fireproofing)	
Impact Resistance, Minimum	ASTM D 2794
43 in-lb (Gardner Impact Test)	
Flexibility, no rupture or	ASTM D 522
cracking (Mandrel Bend Test)	

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736
50 pounds of force/foot	
Fire Resistance, Negligible	ASTM E 119
affect on fire resistance	
rating over 3 hour test(Classified	
by UL for use over fibrous and	
cementitious sprayed fireproofing)	
Impact Resistance, Minimum	ASTM D 2794
43 in-lb (Gardner Impact Test)	
Flexibility, no rupture or	ASTM D 522
cracking (Mandrel Bend Test)	

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible	ASTM E 119
affect on fire resistance	
rating over 3 hour test(Tested	
with fireproofing over encapsulant	
applied directly to steel member)	
Bond Strength, 100 pounds of	ASTM E 736
force/foot (Tests	
compatibility with cementitious	
and fibrous fireproofing)	

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in Table 1. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926.1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and

equipment. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. Personnel of other trades, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's APP are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910.147, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the CO, including visual inspection and air sampling. Work shall resume only upon notification by the CO. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Government. When spills occur, work shall stop in all effected areas immediately and the spill shall be cleaned. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Contractor's Designated IH and the CO, work shall proceed.

3.3 OBJECTS

3.3.1 Removal of Mobile Objects

The Government will remove furniture, and equipment from the area of work before work begins. Furnishings identified in DETAIL SHEET 27 are considered contaminated with asbestos fibers. Carpets, draperies, and other items which may not be suitable for onsite wet cleaning methods shall be disposed of as asbestos contaminated material.

3.3.2 Stationary Objects

Stationary objects, furniture, and equipment as shown on DETAIL SHEET 27, shall remain in place and shall be precleaned using HEPA vacuum followed by adequate wet wiping. Stationary objects and furnishings shall be covered with 2 layers of polyethylene and edges sealed with duct tape.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilation system supply and return air ducts in a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910.147 or isolated by airtight seals to prevent the spread of contamination throughout the system. The airtight seals shall consist of air-tight rigid covers for building ventilation supply and exhaust grills where the ventilation system is required to remain in service during abatement then sealed with 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape.

3.5 PRECLEANING

Surfaces shall be cleaned by HEPA vacuum and adequately wet wiped prior to establishment of containment at the discretion of the Contracting Officer.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The specific abatement techniques and items identified shall be detailed in the Contractor's AHAP. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

- a. Vacuum cleaners equipped with HEPA filters.
- b. Wet methods or wetting agents except where it can be demonstrated that the use of wet methods is unfeasible due to the creation of electrical hazards, equipment malfunction, and in roofing.
- c. Prompt clean-up and disposal.
- d. Inspection and repair of polyethylene.
- e. Cleaning of equipment and surfaces of containers prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods:

- a. Local exhaust ventilation equipped with HEPA filter;
- b. Enclosure or isolation of processes producing asbestos dust;
- c. Where the feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce employee exposure to the lowest levels attainable and shall supplement them by the use of respiratory protection.

3.6.3 Unacceptable Practices

The following work practices shall not be used:

- a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
- b. Compressed air used to remove asbestos containing materials, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
- c. Dry sweeping, shoveling, or other dry clean up.
- d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

- a. A Competent Person shall supervise the installation and operation of the control methods.
- b. For jobs involving the removal of more than 25 feet or 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
- c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
- d. Impermeable dropcloths (6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
- e. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated with a HEPA unit and employees must use PPE.

3.6.5 Specific Control Methods for Class I Work

3.6.5.1 Negative Pressure Enclosure (NPE) System

The NPE system shall be as shown in SETUP DETAIL SHEET 2, 3, 4, and 8. The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed. The NPE shall be smoke tested for leaks at the beginning of each shift and be sufficient to maintain a minimum pressure differential of minus 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument and Records shall be provided daily on the same day collected to the CO. The CO shall be notified immediately if the pressure differential falls below the prescribed minimum. The building ventilation system shall not be used as the local exhaust system for the regulated area. The NPE shall terminate outdoors unless an alternate arrangement is allowed by the CO. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems

Glovebag systems shall be as shown in SETUP DETAIL SHEET 10. Glovebags shall be used without modification, smoke-tested for leaks, and completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 150 degrees F.

Prior to disposal, glovebags shall be collapsed using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform glovebag removal. Asbestos regulated work areas shall be established as shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas

shall be maintained, including area signage and boundary warning tape as specified in SET-UP DETAIL SHEET 11.

- a. The Contractor shall attach HEPA vacuum systems to the bag to prevent collapse during removal of ACM.
- b. The negative pressure glove boxes shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures

Double bulkhead containment or mini-containment (small walk-in enclosure) as shown in SETUP DETAIL SHEET 5, 6 and 7 to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation

Wrap and cut operations shall be as shown in SETUP DETAIL SHEETS 9B and 10. Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

- a. A Competent Person shall supervise the work.
- b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
- c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

3.6.7.1 Vinyl and Asphalt Flooring Materials

When removing vinyl and asphalt flooring materials which contain ACM, the Contractor shall use the following practices as shown in RESPONSE ACTION DETAIL SHEET 56, 57, 58, 59, 60, 61, 62, 63 and 64. Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean

floors. Vinyl and asphalt flooring materials shall be removed and floor mastic left in place.

3.6.7.2 Gaskets

Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work. The work shall be performed using wet methods and, to the extent feasible, using local exhaust. The Contractor shall use impermeable drop cloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods and HEPA vacuums. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Methods for Asphaltic Wrap

Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Class I Asbestos Work Response Action Detail Sheets

The following Class I Asbestos Work Response Action Detail Sheet is specified on Table 1 for each individual work task to be performed:

a - i OMITTED

i. Asbestos-contaminated Masonry Wall or Thermal Insulation: See Sheet 51

j. Fireproofing or Thermal Surface Insulation: See Sheet 68

k. OMITTED

l. OMITTED

m. Duct Insulation: Air circulation is not permitted in ductwork while abatement work is in progress. See Sheet 101. The HVAC system shall be isolated or inoperative and locked out of service prior to removal of duct insulation. Air circulation is not permitted in ductwork during abatement work.

n. Pipe Insulation (Using a Glovebag): See Sheet 87

o. Horizontal Pipe Insulation (Using a Containment Area): See Sheet 88

- p. Pipe Insulation (Using a Mini-Containment Area): See Sheet 89
- q. Storage Tank and Boiler Breeching Insulation: See Sheet 93.
Storage tanks and boilers shall be valved off and allowed a sufficient amount of time to cool down prior to abatement work. Insulation shall be sprayed with a mist of amended water or removal encapsulant. Amended water or removal encapsulant shall be allowed to saturate material to substrate. Cover jackets shall be slit at seams, and sections removed and hand-placed in a polyethylene disposable bag. Exposed surfaces shall be continuously sprayed with amended water to minimize airborne dust. Insulation on tanks and boiler breeching shall not be allowed to drop to the floor. Lagging on piping and insulation on fittings shall be removed. A penetrating encapsulant shall be sprayed on all exposed tank, boiler and boiler breeching surfaces.
- r - v OMITTED
- w. Pipe and Fitting Insulation (using Glovebag): See Sheet 86
- x. Storage Tank and Boiler Breeching: See Sheet 92
- y. Duct Insulation: See Sheet 100.

3.6.12 Class II Asbestos Work Response Action Detail Sheets

The following Class II Asbestos Work Response Action Detail Sheet is specified on Table 1 for each individual work task to be performed:

- a - h OMITTED
- i. Vinyl Asbestos Tile Adhered to Concrete Floor System by Asbestos Containing Adhesive: See Sheet 57
- j - n OMITTED
- o. Asbestos-Containing Sheet Flooring Adhered to Concrete Floor System by Asbestos-Containing Adhesive: See Sheet 64
- p. Carpeting (Asbestos-Containing or Contaminated): See Sheet 65
- q. Miscellaneous Asbestos-Containing Materials: See Sheet 45

3.6.13 Sealing Contaminated Items Designated for Disposal

Contaminated items designated for removal shall be coated with an asbestos lockdown encapsulant before being removed from the asbestos control area. The asbestos lockdown encapsulant shall be tinted a contrasting color and shall be spray applied by airless method. Thoroughness of sealing operation shall be visually gauged by the extent of colored coating on exposed surfaces.

3.7 FINAL CLEANING AND VISUAL INSPECTION

After completion of all asbestos removal work and the gross amounts of asbestos have been removed from every surface, any remaining visible accumulations of asbestos shall be collected. For all classes of indoor asbestos abatement projects a final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the

regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring. The Contractor and the CO shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results on the Final Cleaning and Visual Inspection as specified on the SET-UP DETAIL SHEET 19. If the CO rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the CO. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after final visual inspection, a (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements

a. Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101, and the Contractor's air monitoring plan. Results of breathing zone samples shall be posted at the job site and made available to the CO.

b. Worker Exposure.

(1) The Contractor's Designated IH shall collect samples representative of the exposure of each employee who is assigned to work within a regulated area. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section.

(2) The Contractor shall provide an onsite independent testing laboratory with qualified analysts and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926.1101, to include NIOSH 94-113 Method 7400.

(3) The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Contracting Officer, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the CO.

c. Environmental Exposure

(1) All environmental air monitoring shall be performed by Contracting Officer's IH.

(2) Environmental and final clearance air monitoring shall be

performed using NIOSH 94-113 Method 7400 (PCM) with optional confirmation of results by EPA.

(3) For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc.

(4) When confirming asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples, use TEM in accordance with NIOSH 94-113 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH 94-113 Method 7400 PCM analysis. All confirmation of asbestos fiber concentrations, using NIOSH 94-113 Method 7402, shall be at the Contractor's expense.

(5) Monitoring may be duplicated by the Government at the discretion of the CO and at the Government's expense.

(6) The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement.

(7) At the discretion of the Contracting Officer, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. Should an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA occur inside a regulated work area, the Contractor shall stop work immediately, notify the Contracting Officer, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the CO.

3.9.2 Initial Exposure Assessment

The Contractor's Designated IH shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements, which are triggered by exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job. For Class I asbestos work, until the employer conducts exposure monitoring and documents that employees on that job will not be exposed in excess of PELs, or otherwise makes a negative exposure assessment, the Contractor shall presume that employees are exposed in excess of the PEL-TWA and PEL-Excursion Limit.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within 3 days of the initiation of the project and conform to the following criteria:

- a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.
- b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.
- c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Independent Environmental Monitoring

The Government has retained an independent air monitoring firm to perform pre-abatement, during abatement, and final clearance air monitoring. The air monitoring contractor has been provided a copy of the contract that includes this abatement work. The abatement contractor will provide the air monitoring contractor with an up-to-date copy of the accepted AHAP, APP and pertinent detailed drawings. The air monitoring contractor is required to comply with the abatement contractor's safety and health requirements. The abatement contractor will coordinate all onsite activities with the air monitoring contractor, the COR, and other affected parties as directed by the COR. The abatement contractor will provide the air monitoring contractor with an up-to-date schedule of abatement contractor work activities. The air monitoring contractor will coordinate with the abatement contractor and the COR during the performance Government required air monitoring. The abatement contractor is responsible for performing exposure assessment and personal air monitoring of abatement contractor's work. The air monitoring contractor is responsible for performing these tasks for its employee.

3.9.5 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established 1 day prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH 94-113 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area.

One sample shall be collected for every 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH 94-113 Method 7402 (TEM).

3.9.6 Environmental Air Monitoring During Abatement

Until an exposure assessment is provided to the CO, environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Contracting Officer notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the CO.

3.9.7 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Contracting Officer shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. The final visual inspection shall be as specified in SET-UP DETAIL SHEET 19. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Contracting Officer. The Contracting Officer's IH will conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH 84-100 Method 7400 (PCM) and Table 3 with confirmation of results by NIOSH 84-100 Method 7402 (TEM) or the EPA TEM Method specified at 40 CFR 763 and Table 4.

3.9.7.1 Final Clearance Requirements, NIOSH PCM Method

For PCM sampling and analysis using NIOSH 94-113 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH 94-113 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.7.2 Final Clearance Requirements, EPA TEM Method

For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.7.3 Air Clearance Failure

If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.8 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples), and 24 hours (environmental/clearance monitoring) after completion of a sampling period. The CO shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst, testing laboratory principal and the CO's IH. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

- a. Sampling and analytical method used;
- b. Date sample collected;
- c. Sample number;
- d. Sample type: BZ = Breathing Zone (Personal), P = Preabatement, E = Environmental, C = Abatement Clearance;
- e. Location/activity/name where sample collected;
- f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
- g. Calibration date, time, method, location, name of calibrator, signature;
- h. Sample period (start time, stop time, elapsed time (minutes));
- i. Total air volume sampled (liters);
- j. Sample results (f/cc and S/mm square) if EPA methods are required for final clearance;

- k. Laboratory name, location, analytical method, analyst, confidence level. In addition, the printed name and a signature and date block for the Industrial Hygienist who conducted the sampling and for the Industrial Hygienist who reviewed the daily air monitoring log verifying the accuracy of the information.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the CO will allow the warning signs and boundary warning tape to be removed. After final clean-up and acceptable airborne concentrations are attained, but before the HEPA unit is turned off and the containment removed, the Contractor shall remove all pre-filters on the building HVAC system and provide new pre-filters. The Contractor shall dispose of such filters as asbestos contaminated materials. HVAC, mechanical, and electrical systems shall be re-established in proper working order. The Contractor and the CO shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The CO will certify in writing that the area is safe before unrestricted entry is permitted. The Government will have the option to perform monitoring to certify the areas are safe before entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Title to ACM Materials

ACM material resulting from abatement work, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified and in accordance with applicable federal, state and local regulations.

3.11.2 Collection and Disposal of Asbestos

All ACM waste shall be collected including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing and placed in leak-tight containers. Waste within the containers shall be wetted in case the container is breached. Asbestos-containing waste shall be disposed of at an EPA, Commonwealth of Virginia and local approved asbestos landfill off Government property. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the CO. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.3 Scale Weight Measurement

Scales used for measurement shall be public scales. Weighing shall be at a point nearest the work at which a public scale is available. Scales shall be standard truck scales of the beam type; scales shall be equipped with the type registering beam and an "over and under" indicator; and shall be capable of accommodating the entire vehicle. Scales shall be tested, approved and sealed by an inspector of the Commonwealth of Virginia. Scales shall be calibrated and resealed as often as necessary and at least once every three months to ensure continuous accuracy. Vehicles used for hauling ACM shall be weighed empty daily at such time as directed and each vehicle shall bear a plainly legible identification mark.

3.11.4 Weight Bills and Delivery Tickets

Copies of weight bills and delivery tickets shall be submitted to the CO during the progress of the work. The Contractor shall furnish the CO scale tickets for each load of ACM weighed and certified. These tickets shall include tare weight; identification mark for each vehicle weighed; and date, time and location of loading and unloading. Tickets shall be furnished at the point and time individual trucks arrive at the worksite. A master log of all vehicle loading shall be furnished for each day of loading operations. Before the final statement is allowed, the Contractor shall file with the Contracting Officer certified weigh bills and/or certified tickets and manifests of all ACM actually disposed by the Contractor for this contract.

3.11.5 Records and Management Plan

3.11.5.1 Asbestos Waste Shipment Records

The Contractor shall complete and provide the CO final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, CO, the waste transporter and disposal facility operator.

All Waste Shipment Records shall be submitted to the DPW Environmental Division (ED) for review 24 hours prior to shipment. The DPW ED must be notified 24 hours in advance of the time and pick up location of all waste material shipments.

No waste material shipment may leave Fort Myer without inspection of the transporter/shipping container by the DPW ED. No waste material shipment may leave Fort Myer without DPW ED personnel signing on behalf of the Garrison Commander and receiving generator copies of the Waste Shipment Record. All waste material shipping records must be on file in the DPW ED office for review during regulatory inspections.

TABLE 1

SEE ATTACHED INDIVIDUAL WORK TASK DATA ELEMENT SHEETS

TABLE 2

FORMULA FOR CALCULATION OF THE 95 PERCENT CONFIDENCE LEVEL
(Reference: NIOSH 7400)

$$\text{Fibers/cc(01.95 percent CL)} = X + [(X) * (1.645) * (CV)]$$

$$\text{Where: } X = ((E)(AC))/((V)(1000))$$

$$E = ((F/Nf) - (B/Nb))/Af$$

CV = The precision value; 0.45 shall be used unless the analytical laboratory provides the Contracting Officer with documentation (Round Robin Program participation and results) that the laboratory's precision is better.

AC = Effective collection area of the filter in square millimeters

V = Air volume sampled in liters

E = Fiber density on the filter in fibers per square millimeter

F/Nf = Total fiber count per graticule field

B/Nb = Mean field blank count per graticule field

Af = Graticule field area in square millimeters

$$\text{TWA} = C1/T1 + C2/T2 = Cn/Tn$$

Where: C = Concentration of contaminant

T = Time sampled.

TABLE 3

NIOSH METHOD 7400

PCM ENVIRONMENTAL AIR SAMPLING PROTOCOL (NON-PERSONAL)

Sample Location	Minimum No. of Samples	Filter Pore Size (Note 1)	Min. Vol. (Note 2) (Liters)	Sampling Rate (liters/min.)
Inside Abatement Area	0.5/140 Square Meters (Notes 3 & 4)	0.45 microns	3850	2-16
Each Room in 1 Abatement Area Less than 140 Square meters		0.45 microns	3850	2-16
Field Blank	2	0.45 microns	0	0
Laboratory Blank	1	0.45 microns	0	0

Notes:

1. Type of filter is Mixed Cellulose Ester.
2. Ensure detection limit for PCM analysis is established at 0.005 fibers/cc.
3. One sample shall be added for each additional 140 square meters. (The corresponding I-P units are 5/1500 square feet).
4. A minimum of 5 samples are to be taken per abatement area, plus 2 field blanks.

TABLE 4

EPA AHERA METHOD: TEM AIR SAMPLING PROTOCOL

Location Sampled	Minimum No. of Samples	Filter Pore Size	Min. Vol. (Liters)	Sampling Rate (liters/min.)
Inside Abatement Area	5	0.45 microns	1500	2-16
Outside Abatement Area	5	0.45 microns	1500	2-16
Field Blank	2	0.45 microns	0	0
Laboratory Blank	1	0.45 microns	0	0

Notes:

1. Type of filter is Mixed Cellulose Ester.
2. The detection limit for TEM analysis is 70 structures/square mm.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME _____ CONTRACT NO. _____
PROJECT ADDRESS _____
CONTRACTOR FIRM NAME _____
EMPLOYEE'S NAME _____, _____, _____,
(Print) (Last) (First) (MI)

Social Security Number: _____-_____-_____, (Optional)

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH TYPES OF LUNG DISEASE AND CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NONSMOKING PUBLIC.

Your employer's contract for the above project requires that you be provided and you complete formal asbestos training specific to the type of work you will perform and project specific training; that you be supplied with proper personal protective equipment including a respirator, that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you. The Contractor's Designated Industrial Hygienist will check the block(s) for the type of formal training you have completed. Review the checked blocks prior to signing this certification.

FORMAL TRAINING:

_____ a. For Competent Persons and Supervisors: I have completed EPA's Model Accreditation Program (MAP) training course, "Contractor/Supervisor", that meets this State's requirements.

_____ b. For Workers:

_____ (1) For OSHA Class I work: I have completed EPA's MAP training course, "Worker", that meets this State's requirements.

_____ (2) For OSHA Class II work (where there will be abatement of more than one type of Class II materials, i.e., roofing, siding, floor tile, etc.): I have completed EPA's MAP training course, "Worker", that meets this State's requirements.

_____ (3) For OSHA Class II work (there will only be abatement of one type of Class II material):

_____ (a) I have completed an 8-hour training class on the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls of 29 CFR 1926.1101(g) and hands-on training.

_____ (b) I have completed EPA's MAP training course, "Worker", that meets this State's requirements.

_____ (4) For OSHA Class III work: I have completed at least a 16-hour course consistent with EPA requirements for training of local education agency maintenance and custodial staff at 40 CFR 763, Section .92(a)(2) and the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls at 29 CFR 1926.1101, and hands-on training.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

_____ (5) For OSHA Class IV work: I have completed at least a 2-hr course consistent with EPA requirements for training of local education agency maintenance and custodial staff at 40 CFR 763, (a)(1), and the elements of 29 CFR 1926.1101(k)(9)(viii), in addition to the specific work practices and engineering controls at 29 CFR 1926.1101(g) and hands-on training.

_____ c. Workers, Supervisors and the Designated Competent Person: I have completed annual refresher training as required by EPA's MAP that meets this State's requirements.

PROJECT SPECIFIC TRAINING:

_____ I have been provided and have completed the project specific training required by this Contract. My employer's Designated Industrial Hygienist and Designated Competent Person conducted the training.

RESPIRATORY PROTECTION:

_____ I have been trained in accordance with the criteria in the Contractor's Respiratory Protection program. I have been trained in the dangers of handling and breathing asbestos dust and in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair and contact lens use policy of my employer.

RESPIRATOR FIT-TEST TRAINING:

_____ I have been trained in the proper selection, fit, use, care, cleaning, maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in the Contractor's Respiratory Program and have received a satisfactory fit. I have been assigned my individual respirator. I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time.

EPA/[STATE] CERTIFICATION/LICENSE

I have an EPA/[_____] certification/license as:
Building Inspector/Management Planner; Certification # _____
Contractor/Supervisor, Certification # _____
Project Designer, Certification # _____
Worker, Certification # _____

MEDICAL EXAMINATION:

_____ I have had a medical examination within the last twelve months which was paid for by my employer. The examination included: health history, pulmonary function tests, and may have included an evaluation of a chest x-ray. A physician made a determination regarding my physical capacity to perform work tasks on the project while wearing personal protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's Industrial Hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

_____ were no limitations to performing the required work tasks.

_____ were identified physical limitations to performing the required work tasks.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

Date of the medical examination _____

Employee Signature _____ date _____

Contractor's Industrial

Hygienist Signature _____ date _____

ATTACHMENTS: INDIVIDUAL WORK TASK DATA ELEMENT SHEETS 1 THRU 8

-- End of Section --

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 1 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 1
2. LOCATION OF WORK TASK: Building 402 – basement, 1st, 2nd, 3rd & 4th floors
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: 9 inch x 9 inch white and tan floor tile
 - a. Type of Asbestos: chrysotile
 - b. Percent asbestos content: 4 - 6%
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class II
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: Non-friable Category I
7. FORM IA and CONDITION OF ACM: Fair
8. QUANTITY: 3100 square ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 57
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 4, 7, 8, 9A, 9C, 11, 12, 13, 14, 15, 18, 19, 20, 22, 23, 25, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 2 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 2
2. LOCATION OF WORK TASK: Building 402 – basement boiler room, basement hallways, 1st, 2nd, 3rd & 4th floors
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: thermal system pipe and fitting insulation
 - a. Type of Asbestos: amosite and chrysotile
 - b. Percent asbestos content: 2 - 4%
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class I
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: friable
7. FORM ME and CONDITION OF ACM: fair
8. QUANTITY: 780 linear ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 87, 88, 89, 94
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 5, 6, 7, 8, 9A, 10, 11, 12, 13, 14, 15, 17, 19, 21, 23, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 3 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 3
2. LOCATION OF WORK TASK: Building 402 – basement boiler room
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: boiler insulation
 - a. Type of Asbestos: labeled as ACM
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class I
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: friable
7. FORM ME and CONDITION OF ACM: fair
8. QUANTITY: 400 square ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 93
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 7, 8, 9A, 11, 12, 13, 14, 15, 17, 19, 21, 23, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 4 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 4
2. LOCATION OF WORK TASK: Building 402 – basement boiler room
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: tank insulation
 - a. Type of Asbestos: labeled as ACM
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class I
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: friable
7. FORM ME and CONDITION OF ACM: fair
8. QUANTITY: 1000 square ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 93
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 7, 8, 9A, 11, 12, 13, 14, 15, 17, 19, 21, 23, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 5 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 5
2. LOCATION OF WORK TASK: Building 402 – basement, 1st, 2nd, 3rd & 4th floors
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: 9 inch x 9 inch white and tan floor tile
 - a. Type of Asbestos: chrysotile
 - b. Percent asbestos content: 5%
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class II
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: Non-friable Category I
7. FORM IA and CONDITION OF ACM: fair
8. QUANTITY: 5000 square ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 57
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 4, 7, 8, 9A, 9C, 11, 12, 13, 14, 15, 18, 19, 21, 22, 23, 25, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 6 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 6
2. LOCATION OF WORK TASK: Building 403 – elevator
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: 12 inch x 12 inch black and white floor tile
 - a. Type of Asbestos: chrysotile
 - b. Percent asbestos content: 1%
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class II
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: Non-friable Category I
7. FORM IA and CONDITION OF ACM: fair
8. QUANTITY: 40 square ft
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 57
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 4, 7, 8, 9A, 9C, 11, 12, 13, 14, 15, 18, 19, 20, 22, 23, 25, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 7 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 7
2. LOCATION OF WORK TASK: Building 403 – Room 12 and room opposite it, boiler room in the penthouse, mechanical room basement.
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: Thermal system pipe and fitting insulation.
 - a. Type of Asbestos: chrysotile/labeled as ACM
 - b. Percent asbestos content: 12%
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class I
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: friable
7. FORM ME and CONDITION OF ACM: fair
8. QUANTITY: 1,520 linear ft.
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 87, 88, 89, 94
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 5, 6, 7, 8, 9A, 10, 11, 12, 13, 14, 15, 17, 19, 21, 23, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

TABLE 1

INDIVIDUAL WORK TASK DATA ELEMENTS

Sheet 8 of 8

There is a separate data sheet for each individual work task.

1. WORK TASK DESIGNATION NUMBER: 8
2. LOCATION OF WORK TASK: Building 403 – Boiler room in the penthouse.
3. BRIEF DESCRIPTION OF MATERIAL TO BE ABATED: Tank insulation.
 - a. Type of Asbestos: labeled as ACM
4. ABATEMENT TECHNIQUE TO BE USED: REM
5. OSHA ASBESTOS CLASS DESIGNATION FOR WORK TASK: Class I
6. EPA NESHAP FRIABILITY DESIGNATION FOR WORK TASK: friable
7. FORM ME and CONDITION OF ACM: fair
8. QUANTITY: 500 square ft.
9. RESPONSE ACTION DETAIL SHEET NUMBER FOR WORK TASK: 93
10. SET-UP DETAIL SHEET NUMBERS FOR WORK TASK: 1, 3, 7, 8, 9A, 11, 12, 13, 14, 15, 17, 19, 21, 23, 27

NOTES:

- (1) Numeric sequence of individual work tasks (1,2,3,4, etc.) for each regulated area. Each category of EPA friability/OSHA class has a separate task.
- (2) Specific location of work (building, floor, area, e.g., Building 1421, 2nd Floor, Rm 201)
- (3) A description of material to be abated (example: horizontal pipe, cement wall panels, tile, stucco, etc.) type of asbestos (chrysotile, amosite, crocidolite, etc.); and % asbestos content.
- (4) Technique to be used: Removal = REM; Encapsulation = ENCAP; Encasement = ENCAS; Enclosure = ENCL; Repair = REP.
- (5) Class designation: Class I, II, III, or IV (OSHA designation).
- (6) Friability of materials: Check the applicable EPA NESHAP friability designation.
- (7) Form: Interior or Exterior Architectural = IA or EA; Mechanical/Electrical = ME. Condition: Good = G; Fair = F; Poor = P.
- (8) Quantity of ACM for each work task in meters or square meters.
- (8a) Quantity of ACM for each work task in linear feet or square feet.
- (9) Response Action Detail Sheet specifies the material to be abated and the methods to be used. There is only one Response Action Detail Sheet for each abatement task.
- (10) Set-up Detail Sheets indicate containment and control methods used in support of the response action (referenced in the selected Response Action Detail Sheet).

SECTION 13284N

REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1000	Air Contaminants
29 CFR 1910.145	Accident Prevention Signs and Tags
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 174	Carriage by Rail
49 CFR 175	Carriage by Aircraft
49 CFR 176	Carriage by Vessel
49 CFR 177	Carriage by Public Highway
49 CFR 178	Specifications for Packagings
49 CFR 179	Specifications for Tank Cars

1.2 REQUIREMENTS

The work includes the removal and disposal of dielectric fluid-containing equipment as specified in paragraph PCB CONTAINING BALLAST, FLORESCENT LIGHT FIXTURES AND PCB TRANSFORMERS in Section 01011 DESCRIPTION OF WORK. Perform work in accordance with 40 CFR 761 and the requirements specified herein.

1.3 DEFINITIONS

1.3.1 Leak

Leak or leaking means any instance in which a PCB Article, PCB Container, or PCB Equipment has any PCBs on any portion of its external surface.

1.3.2 PCBs

PCBs as used in this specification shall mean the same as PCBs, PCB Article, PCB Article Container, PCB Container, PCB Equipment, PCB Item, PCB Transformer, PCB-Contaminated Electrical Equipment, as defined in 40 CFR 761, Section 3, Definitions.

1.3.3 Spill

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges when the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases.

1.4 QUALITY ASSURANCE

1.4.1 Training

Instruct employees on the dangers of PCB exposure, on respirator use, decontamination, and applicable OSHA and EPA regulations.

1.4.2 Certified Industrial Hygienist (CIH)

Obtain the services of an industrial hygienist certified by the American Board of Industrial Hygiene to certify training, review and approve the PCB removal plan, including determination of the need for personnel protective equipment (PPE) in performing PCB removal work.

1.4.3 Regulation Documents

Maintain at all times one copy each at the office and one copy each in view at the job site 29 CFR 1910.1000, 40 CFR 761, and Contractor work practices for removal, storage and disposal of PCBs.

1.4.4 Surveillance Personnel

Surveillance personnel may enter PCB control areas for brief periods of time provided they wear disposable polyethylene gloves and disposal polyethylene foot covers, as a minimum. Additional protective equipment may be required if respiratory hazard is involved or if skin contact with PCB is involved.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Certificates

Training certification

Qualifications of CIH

PCB removal work plan

PCB disposal plan

Notification

Transporter certification of notification to EPA of their PCB waste activities and EPA ID numbers

Certification of Decontamination for PCB Spill

Post cleanup sampling data

Certificate of disposal

1.6 EQUIPMENT

1.6.1 Special Clothing

Work clothes shall consist of PPE as required by OSHA regulations, including, but not limited to the following:

- a. Disposable coveralls
- b. Gloves (Disposable rubber gloves may be worn under these)
- c. Disposable foot covers (polyethylene)
- d. Chemical safety goggles
- e. Half mask cartridge respirator.

1.6.2 Special Clothing for Government Personnel

Provide PPE specified in paragraph entitled "Special Clothing" to the Contracting Officer as required for inspection of the work.

1.6.3 PCB Spill Kit

Assemble a spill kit to include the following items:

<u>ITEM</u>	<u>MINIMUM QUANTITY</u>
1. Disposable gloves (polyethylene)	6 prs
2. Gloves with a high degree of impermeability to PCB	6 prs
3. Disposable coveralls with permeation resistance to PCB	4 ea
4. Chemical safety goggles	2 ea
5. Disposable foot covers (polyethylene)	6 prs
6. PCB Caution Sign: "PCB Spill--Authorized Personnel Only"	2 ea
7. Banner guard or equivalent banner material	100 feet

<u>ITEM</u>	<u>MINIMUM QUANTITY</u>
8. Absorbent material	
9. Blue polyethylene waste bags	5 bags
10. Cloth backed tape	5 ea
11. Area access logs, blank	1 roll
12. Brattice cloth, 6' x 6'	10 ea
13. Rags	1 piece
14. Ball point pens	20 ea
15. Herculite, 4' x 4' and 8' x 8'	2 ea 1 ea
16. Blank metal signs and grease pencils	
17. Waste containers 55 gallon drum, may be used as container for kit)	2 ea 1 ea

1.7 QUALITY ASSURANCE

1.7.1 Training Certification

Submit certificates, prior to the start of work but after the main abatement submittals, signed and dated by the CIH and by each employee stating that the employee has received training. Certificates shall be organized by individual worker, not grouped by type of certificates.

1.7.2 Qualifications of CIH

Submit the name, address, and telephone number of the Industrial Hygienist selected to perform the duties in paragraph entitled "Certified Industrial Hygienist." Submit proper documentation that the Industrial Hygienist is certified, including certification number and date of certification/recertification.

1.7.3 PCB Removal Work Plan

Submit a detailed job-specific plan of the work procedures to be used in the removal of PCB-containing materials, not to be combined with other hazardous abatement plans. Provide a Table of Contents for each abatement submittal which shall follow the sequence of requirements in the contract. The plan shall include a sketch showing the location, size, and details of PCB control areas, location and details of decontamination rooms, change rooms, shower facilities, and mechanical ventilation system]. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of PCB related work, PCB disposal plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that PCB contamination is not spread or carried outside of the control area. Obtain approval of the plan prior to the start of PCB removal work.

1.7.4 PCB Disposal Plan

Submit a PCB Disposal Plan within 45 calendar days after award of contract for Contracting Officer's approval. The PCB Disposal Plan shall comply with applicable requirements of Federal, State, and local PCB waste regulations and address:

- a. Identification of PCB wastes associated with the work.
- b. Estimated quantities of wastes to be generated and disposed of.

- c. Names and qualifications of each contractor that will be transporting, storing, treating, and disposing of the wastes. Include the facility location and a 24-hour point of contact. Furnish two copies of EPA, State and local PCB waste permit applications, permits and EPA Identification numbers.
- d. Names and qualifications (experience and training) of personnel who will be working on-site with PCB wastes.
- e. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.
- f. Spill prevention, containment, and cleanup contingency measures to be implemented.
- g. Work plan and schedule for PCB waste containment, removal and disposal. Wastes shall be cleaned up and containerized daily.

Title

1.7.5 Notification

Notify the Contracting Officer 20 days prior to the start of PCB removal work.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Decontamination Room, Clean Room and Shower Facilities

- a. Provide material and labor for construction of a decontamination room, a clean room, and shower facilities. Provide rooms with doors and attach to the exit ways of PCB work areas. Rooms shall be of sufficient size to accommodate the Contractor's operation within. Existing facilities with water closets, urinals, wash basins and showers may be used if available to the Contractor. Provide separate clothing lockers or containers in each room to prevent contamination of street and work clothes.
- b. Remove PCB-contaminated PPE in the decontamination room. Workers shall then proceed to showers. Workers shall shower before lunch and at the end of each day's work. Hot water, towels, soap, and hygienic conditions are the responsibility of the Contractor.

3.1.2 PCB Control Area

Isolate PCB control area by physical boundaries to prevent unauthorized entry of personnel. Food, drink and smoking materials shall not be permitted in areas where PCBs are handled or PCB items are stored.

3.1.3 Personnel Protection

Workers shall wear and use PPE, as recommended by the Industrial Hygienist,

upon entering a PCB control area. If PPE is not required per the CIH, specify in the PCB removal work plan.

3.1.4 Footwear

Work footwear shall remain inside work area until completion of the job.

3.1.5 Permissible Exposure Limits (PEL)

PEL for PCBs is 3.1 E-08 lb/cubic foot on an 8-hour time weighted average basis.

3.1.6 Special Hazards

- a. PCBs shall not be exposed to open flames or other high temperature sources since toxic decomposition by-products may be produced.
- b. PCBs shall not be heated to temperatures of 135 degrees F or higher without Contracting Officer's concurrence.

3.1.7 PCB Caution Label

40 CFR 761, Subpart C. Affix labels to PCB waste containers and other PCB-contaminated items. Provide label with sufficient print size to be clearly legible, with bold print on a contrasting background, displaying the following: CAUTION: Contains PCBs (Polychlorinated Biphenyls).

3.1.8 PCB Caution Sign

29 CFR 1910.145. Provide signs at approaches to PCB control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area.

3.2 WORK PROCEDURE

Furnish labor, materials, services, and equipment necessary for the complete removal of PCBs located at the site as indicated or specified in accordance with local, State, or Federal regulations. Package and mark PCB as required by EPA and DOT regulations and dispose of off Government property in accordance with EPA, DOT, and local regulations at a permitted site.

3.2.1 No Smoking

Smoking is not permitted within 50 feet of the PCB control area. Provide "No Smoking" signs as directed by the Contracting Officer.

3.2.2 Work Operations

Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with 40 CFR 761 and the applicable requirements of this section, including but not limited to:

- a. Obtaining advance approval of PCB storage sites.
- b. Notifying Contracting Officer prior to commencing the operation.
- c. Reporting leaks and spills to the Contracting Officer.

- d. Cleaning up spills.
- e. Maintaining an access log of employees working in a PCB control area and providing a copy to the Contracting Officer upon completion of the operation.
- f. Inspecting PCB and PCB-contaminated items and waste containers for leaks and forwarding copies of inspection reports to the Contracting Officer.
- g. Maintaining a spill kit as specified in paragraph entitled "PCB Spill Kit."
- h. Maintaining inspection, inventory and spill records.

3.3 PCB TRANSFORMERS

3.3.1 Draining of Transformer Liquid

Perform work in accordance with 49 CFR 171, 49 CFR 172, 49 CFR 173, 49 CFR 174, 49 CFR 175, 49 CFR 176, 49 CFR 177, 49 CFR 178, and 49 CFR 179, Subchapter C and as specified herein. Drain the transformer, switches, and regulators of free flowing liquid prior to transportation. Place the drained liquids in DOT Spec 17E drums. The drums shall not contain more than 50 gallons of oil. If the equipment cannot be drained, then place it in DOT Spec 17C drums.

3.3.2 Markings

Provide drums and drained PCB-contaminated electrical equipment with caution label markings as specified in paragraph entitled "PCB Caution Label."

3.3.3 Laboratory Analysis

All transformers shall have a gas chromatograph laboratory analysis for turn-in. The only two exceptions to this rule are:

- a. The transformer is hermetically sealed (solder sealed or fusion sealed. No access ports or openings).
- b. The name plate states that the transformer contains pyranol, interteen, etc.

Attach a copy of the lab analysis to both the DD 1348-1 and the transformer itself.

3.3.4 Markings

3.3.4.1 Transformers, Less Than 50 ppm

Add absorbent material to absorb residue oil remaining after draining. Write the date drained on the transformer. Turn in transformers to the DRMO Scrapyard. Telephone 471-3636 to schedule appointment for turn-in.

3.3.4.2 Transformers, 50-499 ppm

Same procedure as transformers in the less than 50 ppm range.

3.3.4.3 Transformers, Greater Than 500 ppm

Stencil date drained on the transformer. Turn in transformer to DRMO-Hawaii, Building #26, Manana Storage Area.

3.3.4.4 Drums

Stencil on DOT-approved 55 gallon drums containing PCB liquid the following:

- a. ppm
- b. Date drum filled
- c. Serial number of transformer liquid came from
- d. National Stock Number
 - (1) "9999-00-OIL" for <50 ppm
 - (2) "9999-00-CONPCB" for 50-499 ppm
 - (3) "9999-00-PCBOIL" for >500 ppm

Do not mix different ppms in the same drum. Drums must have a 2 inch ullage space from the top of the drum.

3.4 PCB REMOVAL

Select PCB removal procedure to minimize contamination of work areas with PCB or other PCB-contaminated debris/waste. Handle PCBs such that no skin contact occurs. PCB removal process should be described in the work plan.

3.4.1 Confined Spaces

As feasible, do not carry out PCB handling operations in confined spaces. A confined space shall mean a space having limited means of egress and inadequate cross ventilation.

3.4.2 Control Area

Establish a PCB control area around the PCB item as specified in paragraph entitled "PCB Control Area." Only personnel briefed on the elements in the paragraph entitled "Training" and on the handling precautions shall be allowed into the area.

3.4.3 Exhaust Ventilation

If used, exhaust ventilation for PCB operations shall discharge to the outside and away from personnel.

3.4.4 Temperatures

As feasible, handle PCBs at ambient temperatures and not at elevated temperatures.

3.4.5 Solvent Cleaning

Clean contaminated tools, containers, etc., after use by rinsing three times with an appropriate solvent or by wiping down three times with a

solvent wetted rag. Suggested solvents are stoddard solvent or hexane.

3.4.6 Drip Pans

Drip pans are required under portable PCB transformers and rectifiers in use or stored for use. The pans shall have a containment volume of at least one and one-half times the internal volume of PCBs in the item.

3.4.7 Evacuation Procedures

Procedures shall be written for evacuation of injured workers. Aid for a seriously injured worker shall not be delayed for reasons of decontamination.

3.5 PCB SPILL CLEANUP REQUIREMENTS

3.5.1 PCB Spills

Immediately report to the Contracting Officer any PCB spills on the ground or in the water, PCB spills in drip pans, or PCB leaks.

3.5.2 PCB Spill Control Area

Rope off an area around the edges of a PCB leak or spill and post a "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

3.5.3 PCB Spill Cleanup

40 CFR 761, Subpart G. Initiate cleanup of spills as soon as possible, but no later than 48 hours of its discovery. To clean up spills, personnel shall wear the PPE prescribed in paragraph entitled "Special Clothing" of this section. If misting, elevated temperatures or open flames are present, or if the spill is situated in a confined space, notify the Contracting Officer. Mop up the liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid PCB waste.

3.5.4 Records and Certification

Document the cleanup with records of decontamination in accordance with 40 CFR 761, Section 125, Requirements for PCB Spill Cleanup. Provide certification of decontamination.

3.5.5 Sampling Requirements

Perform post cleanup sampling as required by 40 CFR 761, Section 130, Sampling Requirements. Do not remove boundaries of the PCB control area until site is determined satisfactorily clean by the Contracting Officer.

3.6 STORAGE FOR DISPOSAL

3.6.1 Storage Containers for PCBs

49 CFR 178. Store liquid PCBs in Department of Transportation (DOT) Specification 17E containers. Store nonliquid PCB mixtures, articles, or equipment in DOT Specification 5, 5B, or 17C containers with removable heads.

3.6.2 Waste Containers

Label with the following:

- a. "Solid (or Liquid) Waste Polychlorinated Biphenyls"
- b. The PCB Caution Label, paragraph entitled "PCB Caution Label"
- c. The date the item was placed in storage and the name of the cognizant activity/building.

3.6.3 PCB Articles and PCB-Contaminated Items

Label with items b. through c. above.

3.6.4 Approval of Storage Site

Obtain in advance Contracting Officer approval using the following criteria without exception.

- a. Adequate roof and walls to prevent rainwater from reaching the stored PCBs.
- b. An adequate floor which has continuous curbing with a minimum 6 inch high curb. Such floor and curbing shall provide a containment volume equal to at least two times the internal volume of the largest PCB article or PCB container stored therein or 25 percent of the total internal volume of all PCB equipment or containers stored therein, whichever is greater.
- c. No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.
- d. Floors and curbing constructed of continuous smooth and impervious materials such as portland cement, concrete or steel to prevent or minimize penetrations of PCBs.
- e. Not located at a site which is below the 100-year flood water elevation.
- f. Each storage site shall be posted with the PCB Caution Sign, paragraph entitled "PCB Caution Sign."

3.7 CLEANUP

Maintain surfaces of the PCB control area free of accumulations of PCBs. Restrict the spread of dust and debris; keep waste from being distributed over work area.

- a. Do not remove the PCB control area and warning signs prior to the Contracting Officer's approval. Reclean areas showing residual PCBs.

3.8 DISPOSAL

Comply with disposal requirements and procedures outlined in 40 CFR 761. Do not accept PCB waste unless it is accompanied by a manifest signed by the Government. Before transporting the PCB waste, sign and date the

manifest acknowledging acceptance of the PCB waste from the Government. Return a signed copy to the Government before leaving the job site. Ensure that the manifest accompanies the PCB waste at all times. Submit transporter certification of notification to EPA of their PCB waste activities.

3.8.1 Certificate of Disposal

40 CFR 761. Submit to the Government within 30 days of the date that the disposal of the PCB waste identified on the manifest was completed. Certificate for the PCBs and PCB items disposed shall include:

- a. The identity of the disposal facility, by name, address, and EPA identification number.
- b. The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.
- c. A statement certifying the fact of disposal of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used.
- d. All manifests shall be submitted to DPW Environmental Division (ED) for review 24 hours prior to shipment.
- e. The DPW ED must be notified 24 hours in advance of the pick up location of all PCB Transformer shipments.
- f. No PCB ballast shipments may leave Fort Myer without inspection of the transporter/shipping container(s) by the DPW ED. No PCB Transformer shipment may leave Fort Myer without DPW ED personnel signing on behalf of the Garrison Commander and receiving generator copies of the manifest(s). All manifests must be on file in the DPW ED office for review during regulatory inspections.
- d. A certification as defined in 40 CFR 761, Section 3.

3.8.1.1 Payment Upon Furnishing Certificate of Disposal of PCBs

Payment will not be made until the certificate of disposal has been furnished to the Contracting Officer.

-- End of Section --

SECTION 13286N

HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBs AND MERCURY

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

STATE OF VIRGINIA ADMINISTRATIVE CODE (VAC)

9 VAC 20-60	Title 9, Agency 20, Chapter 60: Hazardous Waste Management Regulations
9 VAC 20-80	Title 9, Agency 20, Chapter 80: Solid Waste Management Regulations

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1000	Air Contaminants
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
40 CFR 273	Standards For Universal Waste Management
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
49 CFR 178	Specifications for Packagings

1.2 REQUIREMENTS

Removal and disposal of PCB containing lighting ballasts and associated mercury-containing lamps. Contractor may encounter leaking PCB ballasts.

1.2.1 Description of Work

1.2.1.1 Scope of Work (Waste Type A)

The Contractor is responsible for removing approximately 300 PCB-containing ballasts from Building 402, 700 PCB-containing ballasts from Building 403, and 10 PCB-containing ballasts from Building 412. The ballasts will be packaged, labeled and disposed of as described below.

1.2.1.2 Scope of Work (Waste Type B)

The Contractor is responsible for removing approximately 600 fluorescent lamps from Building 402, 1400 fluorescent lamps from Building 403, and 50 fluorescent lamps from Building 412. The light bulbs will not be discarded but are to be recovered and recycled by the Contractor as described below.

1.3 DEFINITIONS

1.3.1 Certified Industrial Hygienist (CIH)

A industrial hygienist hired by the contractor shall be certified by the American Board of Industrial Hygiene.

1.3.2 Leak

Leak or leaking means any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface.

1.3.3 Lamps

Lamp, also referred to as "universal waste lamp", is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

1.3.4 Polychlorinated Biphenyls (PCBs)

PCBs as used in this specification shall mean the same as PCBs, PCB containing lighting ballast, and PCB container, as defined in 40 CFR 761, Section 3, Definitions.

1.3.5 Spill

Spill means both intentional and unintentional spills, leaks, and other uncontrolled discharges when the release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from those releases.

1.3.6 Universal Waste

Universal Waste means any of the following hazardous wastes that are managed under the universal waste requirements 40 CFR 273:

- (1) Batteries as described in Sec. 273.2 of this chapter;
- (2) Pesticides as described in Sec. 273.3 of this chapter;
- (3) Thermostats as described in Sec. 273.4 of this chapter; and
- (4) Lamps as described in Sec. 273.5 of this chapter.

1.4 QUALITY ASSURANCE

1.4.1 Regulatory Requirements

Perform PCB related work in accordance with 40 CFR 761 and 9 VAC 20-60 and 9 VAC 20-80. Perform mercury-containing lamps storage and transport in accordance with 40 CFR 261, 40 CFR 264, 40 CFR 265, 40 CFR 273 and 9 VAC 20-60 and 9 VAC 20-80.

1.4.2 Training

Certified industrial hygienist (CIH) shall instruct and certify the training of all persons involved in the removal of PCB containing lighting ballasts and mercury-containing lamps. The instruction shall include: The dangers of PCB and mercury exposure, decontamination, safe work practices, and applicable OSHA and EPA regulations. The CIH shall review and approve the PCB and Mercury-Containing Lamp Removal Work Plans.

1.4.3 Regulation Documents

Maintain at all times one copy each at the office and one copy each in view at the job site of 29 CFR 1910.1000, 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 265, 40 CFR 268, 40 CFR 270, 40 CFR 273 and 9 VAC 20-60 9 VAC 20-80 and of the Contractor removal work plan and disposal plan for PCB and for associated mercury-containing lamps.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Part 1.5 SUBMITTALS in Section 01010 SPECIAL CLAUSES:

SD-07 Certificates

Qualifications of CIH; G ED

Training Certification; G ED

PCB and Lamp Removal Work Plan; G ED

PCB and Lamp Disposal Plan; G ED

SD-11 Closeout Submittals

Transporter certification of notification to EPA of their PCB waste activities and EPA ID numbers; G ED

Certification of Decontamination

Certificate of Disposal and/or recycling. Submit to the Government before application for payment within 30 days of the date that the disposal of the PCB and mercury-containing lamp waste identified on the manifest was completed.

DD Form 1348-1

Testing results

1.6 ENVIRONMENTAL REQUIREMENTS

Use special clothing:

- a. Disposable gloves (polyethylene)
- b. Eye protection
- c. PPE as required by CIH

1.7 SCHEDULING

Notify the Contracting Officer 20 days prior to the start of PCB and mercury-containing lamp removal work.

1.8 QUALITY ASSURANCE

1.8.1 Qualifications of CIH

Submit the name, address, and telephone number of the Industrial Hygienist selected to perform the duties in paragraph entitled "Certified Industrial Hygienist." Submit training certification that the Industrial Hygienist is certified, including certification number and date of certification or re certification.

1.8.2 PCB and Lamp Removal Work Plan

Submit a job-specific plan within 20 calendar days after award of contract of the work procedures to be used in the removal, packaging, and storage of PCB-containing lighting ballasts and associated mercury-containing lamps. Include in the plan: Requirements for Personal Protective Equipment (PPE), spill cleanup procedures and equipment, eating, smoking and restroom procedures. The plan shall be approved and signed by the Certified Industrial Hygienist. Obtain approval of the plan by the Contracting Officer prior to the start of PCB and/or lamp removal work.

1.8.3 PCB and Lamp Disposal Plan

Submit a PCB and lamp Disposal Plan with 45 calendar days after award of contract. The PCB and Lamp Disposal Plan shall comply with applicable requirements of federal, state, and local PCB and Universal waste regulations and address:

- a. Estimated quantities of wastes to be generated, disposed of, and recycled.
- b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes.

Include the facility location. Furnish two copies of EPA and state PCB and mercury-containing lamp waste permit applications and EPA identification numbers, as required.

- c. Names and qualifications (experience and training) of personnel who will be working on-site with PCB and mercury-containing lamp wastes.
- d. Spill prevention, containment, and cleanup contingency measures to be implemented.
- e. Work plan and schedule for PCB and mercury-containing lamp waste removal, containment, storage, transportation, disposal and or recycling. Wastes shall be cleaned up and containerize daily.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 WORK PROCEDURE

Furnish labor, materials, services, and equipment necessary for the removal of PCB containing lighting ballasts, associated mercury-containing fluorescent lamps, in accordance with local, state, or federal regulations.

Do not expose PCBs to open flames or other high temperature sources since toxic decomposition by-products may be produced. Do not break mercury containing fluorescent lamps or high intensity discharge lamps.

3.1.1 Work Operations

Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with 40 CFR 761, 40 CFR 262 40 CFR 263, and the applicable requirements of this section, including but not limited to:

- a. Obtaining suitable PCB and mercury-containing lamp storage sites.
- b. Notifying Contracting Officer prior to commencing the operation.
- c. Reporting leaks and spills to the Contracting Officer.
- d. Cleaning up spills.
- e. Inspecting PCB and PCB-contaminated items and waste containers for leaks and forwarding copies of inspection reports to the Contracting Officer.
- f. Maintaining inspection, inventory and spill records.

3.2 PCB SPILL CLEANUP REQUIREMENTS

3.2.1 PCB Spills

Immediately report to the Contracting Officer any PCB spills.

3.2.2 PCB Spill Control Area

Rope off an area around the edges of a PCB leak or spill and post a "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

3.2.3 PCB Spill Cleanup

40 CFR 761, subpart G. Initiate cleanup of spills as soon as possible, but no later than 24 hours of its discovery. Mop up the liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid PCB waste.

3.2.4 Records and Certification

Document the cleanup with records of decontamination in accordance with 40 CFR 761, Section 125, Requirements for PCB Spill Cleanup. Provide test results of cleanup and certification of decontamination.

3.3 REMOVAL

3.3.1 Ballasts

As ballast are removed from the lighting fixture, inspect label on ballast. Ballasts without a "No PCB" label shall be assumed to contain PCBs and containerized and disposed of as required under paragraphs STORAGE FOR DISPOSAL and DISPOSAL. If there are less than 1600 "No PCB" labeled lighting ballasts dispose of them as normal demolition debris. If there are more than 1600 "No PCB" labeled ballasts, establish whether the "No PCB" labeled ballasts contain diethylhexyl phthalate (DEHP) either by test or by checking with the ballast manufacturer indicated on the label. Submit testing results and/or written confirmation from the manufacturer to the Contracting Officer. If the ballasts do not contain DEHP, dispose of them as normal construction debris. If they do contain DEHP, dispose of them as hazardous material in accordance with Federal, State, and local regulations. As a basis of bid assume ballasts with "No PCB" labels do not contain DEHP and may disposed of as normal construction debris. If 1600 or more DEHP ballasts are disposed of in a 24 hour period, notify the National Response Team at 800-424-8802.

3.3.2 Lighting Lamps

Remove lighting tubes/lamps from the lighting fixture and carefully place (unbroken) into appropriate containers (original transport boxes or equivalent). In the event of a lighting tube/lamp breaking, sweep and place waste in double plastic taped bags and dispose of as universal waste as specified herein.

3.4 STORAGE FOR DISPOSAL

3.4.1 Storage Containers for PCBs

49 CFR 178. Store PCB in containers approved by DOT for PCB. All DOT 1A2 steel drums for storing PCB ballast must be properly closed at all times except when adding ballast.

3.4.2 Storage Containers for lamps

Store mercury containing lamps in appropriate DOT containers. The boxes

shall be stored and labeled for transport in accordance with 40 CFR 273.

3.4.3 Labeling of Waste Containers

Label with the following:

- a. Date the item was placed in storage and the name of the cognizant activity/building.
- b. "Caution Contains PCB," conforming to 40 CFR 761, CFR Subpart C. Affix labels to PCB waste containers.
- c. Label mercury-containing lamp waste in accordance with 40 CFR 273. Affix labels to all lighting waste containers.

3.5 DISPOSAL

Dispose of off Government property in accordance with EPA, DOT, and local regulations at a permitted site.

3.5.1 Identification Number

Federal regulations 40 CFR 761, and 40 CFR 263 require that generators, transporters, commercial storers, and disposers of PCB waste possess U.S. EPA identification numbers. The contractor shall verify that the activity has a U.S. EPA generator identification number for use on the Uniform Hazardous Waste manifest. If not, the contractor shall advise the activity that it must file and obtain an I.D. number with EPA prior to commencement of removal work. For mercury containing lamp removal, Federal regulations 40 CFR 273 require that large quantity handlers of Universal waste (LQHUW) must provide notification of universal waste management to the appropriate EPA Region (or state director in authorized states), obtain an EPA identification number, and retain for three years records of off-site shipments of universal waste. The contractor shall verify that the activity has a U.S. EPA generator identification number for use on the Universal Waste manifest. If not, the contractor shall advise the activity that it must file and obtain an I.D. number with EPA prior to commencement of removal work.

3.5.2 Transporter Certification

Comply with disposal and transportation requirements outlined in 40 CFR 761 and 40 CFR 263. Before transporting the PCB waste, sign and date the manifest acknowledging acceptance of the PCB waste from the Government. Return a signed copy to the Government before leaving the job site. Ensure that the manifest accompanies the PCB waste at all times. Submit transporter certification of notification to EPA of their PCB waste activities (EPA Form 7710-53).

All manifests shall be submitted to DPW Environmental Division (ED) for review 24 hours prior to shipment. The DPW ED must be notified 24 hours in advance of the pick up location of all PCB ballast shipments.

No PCB ballast shipments may leave Fort Myer without inspection of the transporter/shipping container(s) by the DPW ED. No PCB ballast shipment may leave Fort Myer without DPW ED personnel signing on behalf of the Garrison Commander and receiving generator copies of the manifest(s). All manifests must be on file in the DPW ED office for review during regulatory inspections.

3.5.2.1 Certificate of Disposal and/or Recycling

40 CFR 761. Certificate for the PCBs and PCB items disposed shall include:

- a. The identity of the disposal and or recycling facility, by name, address, and EPA identification number.
- b. The identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment.
- c. A statement certifying the fact of disposal and or recycling of the identified PCB waste, including the date(s) of disposal, and identifying the disposal process used.
- d. A certification as defined in 40 CFR 761.

-- End of Section --